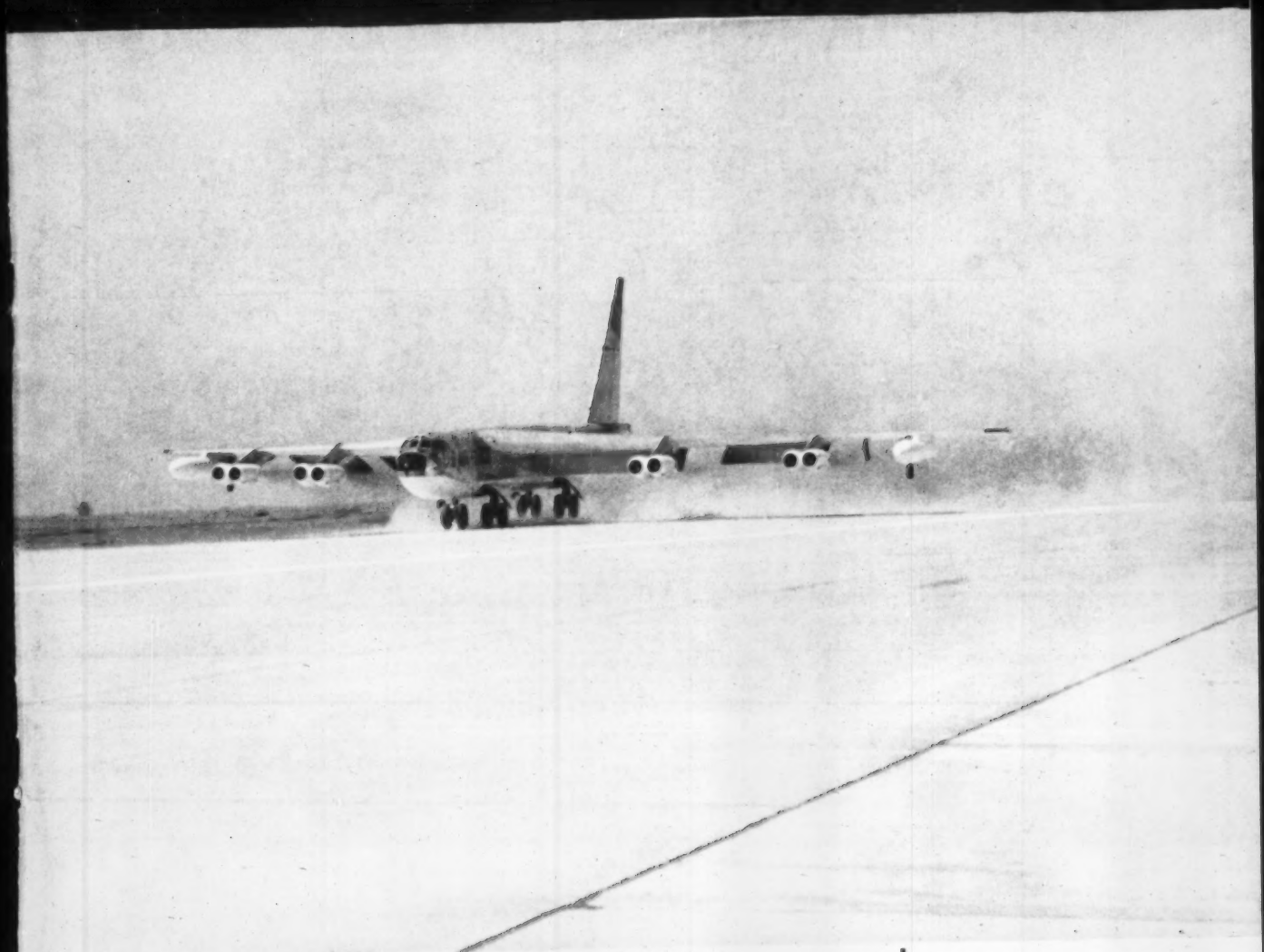
# ENGINEERING NEWS-RECORD



Bomber base paved at jet-age speed p.34

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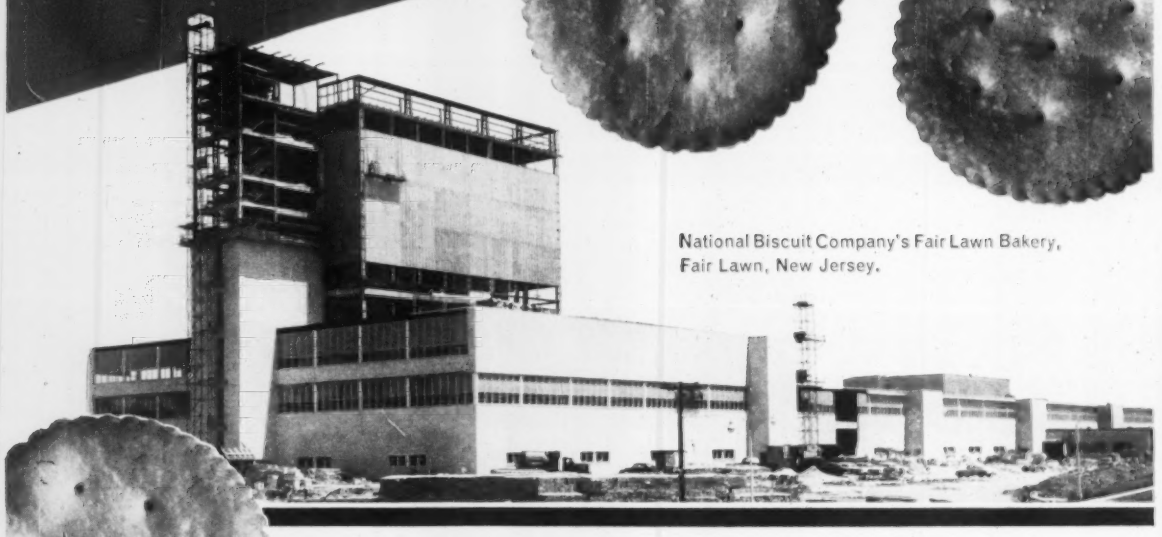
# INGALLS:

**Specialists in Steel Fabrication for Every Structural Purpose**



National Biscuit Company's Fair Lawn Bakery, Fair Lawn, New Jersey.

## RECIPE *for*

### KING-SIZE CRACKER PRODUCTION

Mix the strength and economy of Ingalls fabricated steel and the National Biscuit Company's massive expansion and modernization program for an expanding Eastern market.

The result: the king-size production capabilities of National Biscuit Company's new Fair Lawn Bakery at Fair Lawn, New Jersey.

Each of the nine 284-foot-long band ovens in this ultra-modern bakery can produce 5,600,000 crackers in one eight-hour shift. Together, these ovens will turn out $60,000,000 worth of NABISCO cookies and crackers annually.

The Ingalls Iron Works Company fabricated 6,000 tons of structural steel for the 1275-foot-long main building, 575 tons of plate work for the flour and sugar storage bins, 110 tons of stainless-clad steel for liquid ingredient storage tanks, and 650 tons of structural steel for the research and laboratory building.

If *your* plans call for fabricated structural steel, call on Ingalls—specialists in steel fabrication and erection for over 48 years.

AISC — American Institute of Steel Construction — Founded 1921

Steel Plate Fabricators Association — Founded 1933

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When it comes to heavy-duty service, you can't beat Murphy Diesels for their dependability, fuel economy, trouble-free operation and long life, *unmatched by any other engine of comparable size.* Ask your Murphy Diesel Dealer to explain Murphy's many exclusive advantages before you decide on an engine.

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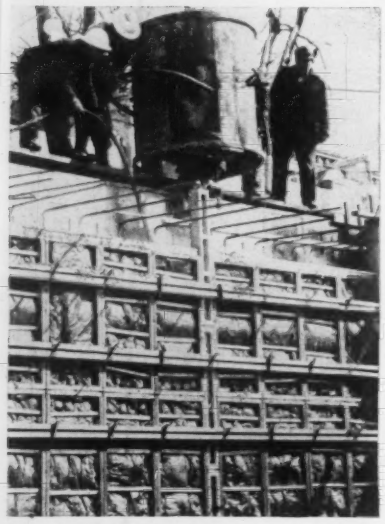
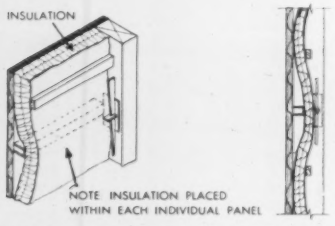


## Symons Forms and Balsam Wool Insulation

### Save 50% on Cost of Heating & Curing Concrete

C. R. Meyer & Sons Company, Oshkosh, Wisconsin posted this record 50% savings on the new $1,000,000 central office building of the Wisconsin Telephone Company at Oshkosh. Two-inch insulation in 24-inch widths was tacked to the forms. Walls were 12 inches thick and varied in height from 12 to 16 feet.

Pouring was started in January. Temperatures ranged from five to 25 degrees above zero. Concrete at time of pour was held in the 70 to 80-degree range. During one pour a




Cutaway section of form with insulation

tube was cast in the wall four feet from the top with a thermometer suspended in the bottom. After 24 hours, temperature at center of concrete rose to 105 degrees and after five days the concrete went back to 70.

Symons forms, shores and column clamps may be rented with purchase option. FREE literature on Symons' products is available upon request.

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EIGHTY-FOURTH YEAR OF PUBLICATION

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ENGINEERING NEWS-RECORD, Vol. 161, No. 18, OCTOBER 30, 1958

Published weekly by McGraw-Hill Publishing Company, James H. McGraw (1860-1948), Founder. Publication Office, 99-129 North Broadway, Albany 1, N. Y. See panel below for directions regarding subscriptions or change in address. **Executive, Editorial, Advertising and Circulation Offices. McGraw-Hill Building, 330 W. 42nd St., New York 36, N. Y.** Donald C. McGraw, President; Joseph A. Gerardi, Executive Vice President; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, President, Publications Division; Shelton Fisher, Senior Vice President; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator. **Subscriptions are solicited only from persons with identifiable commercial or professional interests in construction and building. Position and company connection must be indicated on subscription orders.** United States subscription rate for individuals in the field of this publication $6.00 per year, single copies 50 cents; foreign $20 per year, payable in advance. Second-Class mail privileges authorized at Albany, New York. Printed in U. S. A. Title registered in U.S. Patent Office.


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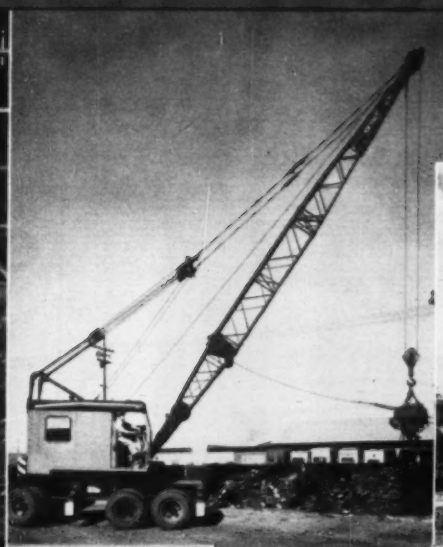
PULLSHOVEL WORK



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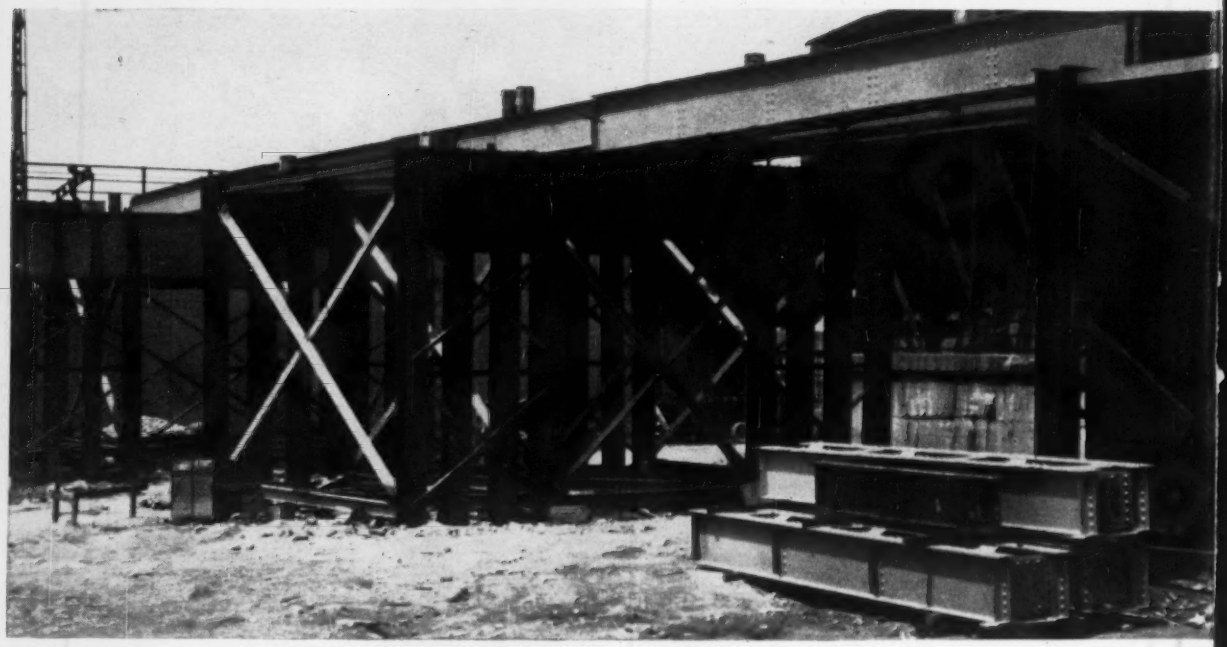

**Easy erection** of structural steel made possible by use of H-Beam Bearing Piles.

# Railroad jumps superhighway on USS Steel H-Beam Bearing Piles

**They do things in a big way in Chicago.** This maze of USS H-Beam Bearing Piles will soon carry four main tracks of a major railway over a temporary trestle spanning the new Northwest Route Expressway. Thus, traffic can flow on the railroad while the new overpass is being built.

**This is an excellent example** showing the versatility and strength of steel bearing piles. In this case, the piles are doing double duty. They serve as end bearing piles supporting the dead load of the temporary structural steel trestle, and, in addition, they serve as structural column bents wherein they must resist the heavy loads caused by moving trains, such as bending, sway, and thrust.

**In addition** to their great strength and rigidity, the value of steel bearing piles is further enhanced by the speed and ease of installation and the minimum amount of fabrication required to complete the trestle. A total of 2,410 tons of Steel H-Beam Piles were used in lengths from 45′ to 98′ and weights from 73 to 127 pounds per foot. As an example, the 95′ piles were driven about 65′ into the ground at a rate of 18 to 20 per 8-hour day.

**When the excavation is completed,** the piles will protrude about 45′. This is another reason for the choice of steel bearing piles. Any other pile as a substitute would expand the congestion problem and make excavation very difficult. In order to equal the strength and rigidity of steel, other types of piles would of necessity have to be more numerous and intricately braced.

For information on the use of USS H-Beam Bearing Piles, write for our free book. United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

## The Project

Interstate Route No. 2, Northwest Route Expressway. Railway grade separation. Temporary Trestle. W. Kinzie St. to W. Hubbard St. **Owner:** City of Chicago, Dept. of Public Works, Bureau of Engineering. **General Contractor:** W. E. O'Neil Construction Co., Chicago, Ill. **Sub-Contractor, Pile Driving:** Fitz Simons & Connell Dredge & Dock Division of Merritt-Chapman & Scott Corp., Chicago, Ill. **Participating Agencies:** Bureau of Public Roads, Cook County Highway Dept., State of Illinois Division of Highways.

**USS Steel H-Beam Bearing Piles** to support four main tracks of a major railway on temporary trestle. Steel supplied necessary strength without bulk.

*USS is a registered trademark*

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USS United States Steel

Piers for Greater New Orleans Bridge.
The Mississippi River Bridge Authority,
New Orleans, La.
Consulting Engineers:
Modjeski & Masters, Harrisburg, Pa.

# 34-story stepping stone for Nation's longest Cantilever Bridge

Extending 162 feet above low water and 180 feet below, this pier of steel and concrete will serve as a stepping stone for a new bridge across the Mississippi River at New Orleans. From it a four-lane highway bridge will take a giant step of 1575 feet to the next supporting structure on the opposite bank.

The new span, linking expressway systems on both sides of the river, will speed traffic into and out of New Orleans. The four main piers were constructed by Dravo at a cost of almost $7,000,000. Similar work on such notable substructures as the Natchez, Mississippi, and Newark Bay bridges, helps explain Dravo's reputation for difficult construction "in and around water."

For more information on any of the services and products for industry shown below, write to DRAVO CORPORATION, PITTSBURGH 25, PENNSYLVANIA.

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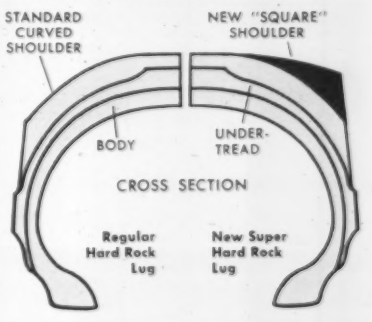


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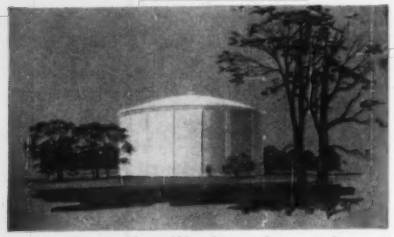
### Maintenance Costs Cut By 75%

Over a 50 year service life, a prestressed concrete tank will show a 75% saving in total maintenance costs over a steel tank of the same capacity. In today's economy, such a long range saving has tremendous appeal to municipalities and water companies throughout the world. When your tank requirements are in the planning stage, these calculated maintenance costs should be considered. Average yearly maintenance on a 3,000,000 gallon steel tank is estimated at $2500 per year at current prices. For a prestressed concrete tank, maintenance is negligible; however, occasional painting for color effect may be desired.

When the charges for servicing the initial cost plus relative maintenance allowances are plotted, the prestressed



concrete tank will often show a lower out of pocket cost to the owner in less than 5 years. When these costs and their increases are extended for an expected service life of 50 years, the savings to the owner with prestressed concrete are enormous.

The prestressed concrete tank is also a good looking tank . . . it is inherently strong and extremely stable . . . it is designed and built for permanence.

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# Reader Comment

## How It Was Done

SIR—I noticed you indicate a new paving record of 6,020 lin ft of 9 in. concrete pavement 24 ft wide in 12½ hours (ENR Sept. 11, p. 17). According to these figures this adds up to 4,010 cu yd, or 321 cu yd an hour.

I am anxious to know how this was accomplished. How many pavers were used? At a minute and a half mix the 34E paver would probably produce 40 batches an hour, or say 50 cu yd an hour. This would add up to 625 cu yd of concrete, and would require about four pavers.

Also, it would be interesting to know the type of equipment used.

ALBERT J. MANTICA
*Contractors Sales Co., Inc.*
*Albany, N. Y.*

**Editor's Note: The record was set with three Rex pavers powered by 4-71 General Motors diesels, a Butler portable air-electric batch-mixing plant and 17 tandem-axle 10 cu yd trucks.**

## Why Frames Are Unstable

SIR—A short item bearing on the collapse of the Union Carbide building, Toronto, Ont. (ENR Sept. 11, p. 27) should be of keen interest to our profession, although it lacks adequate information concerning the cause of failure.

While with the Chicago office of Skidmore, Owings and Merrill, I encountered a pertinent problem during the course of the design of the Inland Steel building, the first multistory rigid frame with no interior supports. The frame was first analyzed and designed by standard engineering methods. As a final step, the building was also analyzed for buckling of the frame in its entirety.

This investigation revealed that the standard methods of design were inadequate for a building of this type. The safety factor for antisymmetric buckling of the frame in the longitudinal direction was less than 1.5.

As a consequence, the spandrel beams and columns in the lower portion of the structure had to be redesigned to increase the safety factor.

Standard methods of design assume the unsupported length of columns equals the story height. A condition consistent with this assumption is achieved only in frames with reasonable spans where the ratio of column stiffness to beam stiffness equals. 1.0±.

In frames with a single, wide opening, the columns carry large axial loads in addition to large moments. This results in heavy columns with a high stiffness.

The spandrel beams, on the other hand, are not commensurately heavy; thus the ratio of the stiffness of the columns and beams is much larger than 1.0. Consequently the "equivalent" unsupported length of the columns is two to three times the story height rather than the one-story height normally assumed.

The collapse of the Union Carbide building could be the result of any one of several alternate causes. This letter is not intended to prejudice the case in any way, since I do not know the particulars, but rather to express an ardent hope that a thorough investigation of the failure will be undertaken and widely reported.

JOHN A. SBAROUNIS
*Structural Engineer*
*Chicago, Ill.*

## To Each His Own?

SIR—Mr. Robinson Newcomb says in his reply (ENR Sept. 4, p. 8) to Prof. A. S. Lang that efficient and adequate highways should be built for commercial trucks with capacities of 15 tons or more.

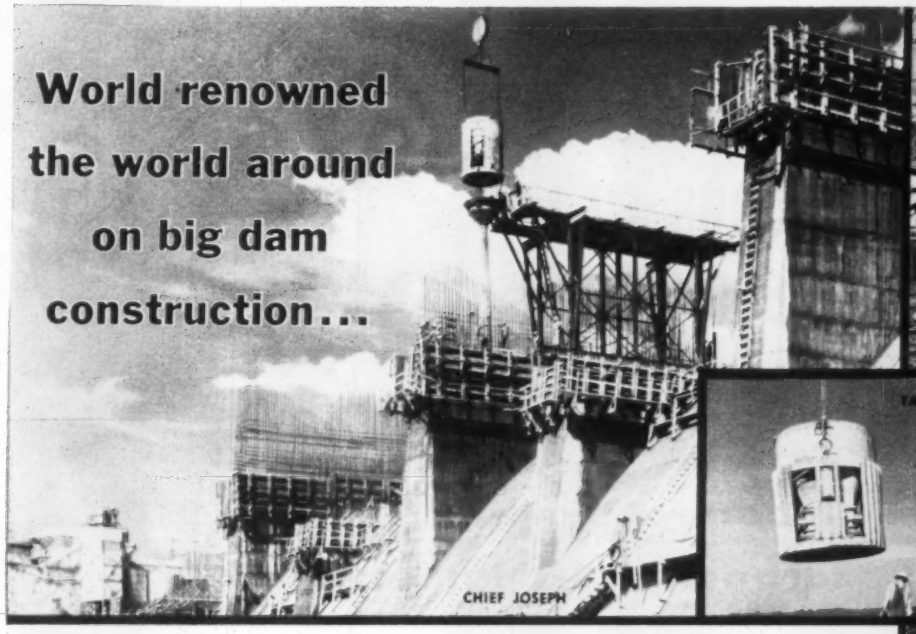
To me, the primary considerations for new highways are: (1) convenience and pleasure of the motoring public; (2) use of highways for defense; and (3) the question of who pays the bill. I object very strenuously to paying my share of highway costs and then being denied the convenience and pleasure of the highway by interstate commercial trucks.

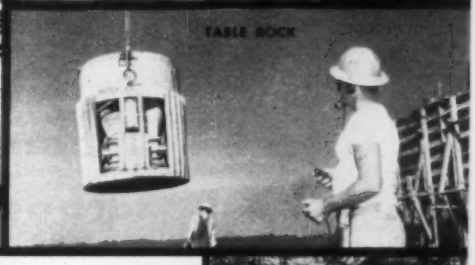
As to our "inefficient" railroads: (1) What is causing the "piggy-back" operation to grow and (2) why does the Interstate Commerce Commission prohibit explosives on passenger trains while permitting commercial interstate trucks to transport explosives with only ONE driver?

We will continue to build highways and the railroads and truckers will continue to operate. Therefore, I suggest highways be constructed for automo-

**Engineering News-Record welcomes expression of opinions from its readers. Comment should be as brief as possible and pertinent to subjects of current construction importance. Letters should be addressed Editor, Engineering News-Record, 300 W. 42nd St., New York 36, N. Y.**

# World renowned the world around on big dam construction...





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ON MORE THAN 80% of all large dam projects, Gar-Bro's big, heavy-duty concrete buckets have been used. Gar-Bro's remote controlled, air-operated gates and the new power operated crane hooks have become essential on these projects. As an innovation, Gar-Bro concrete buckets on cableways have been guided and controlled by closed circuit television and short wave radio.

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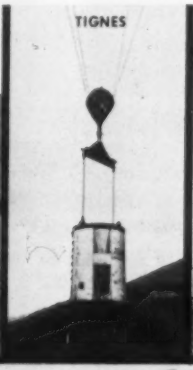
**Presently under construction—see Gar-Bro buckets in action.*



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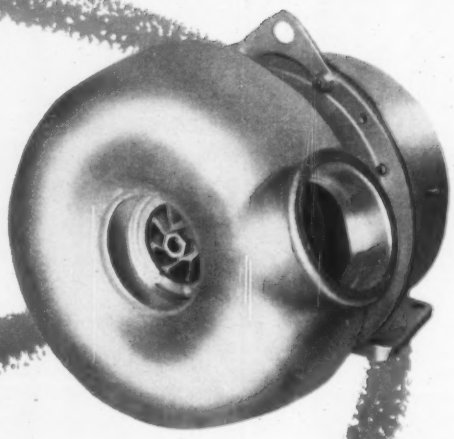
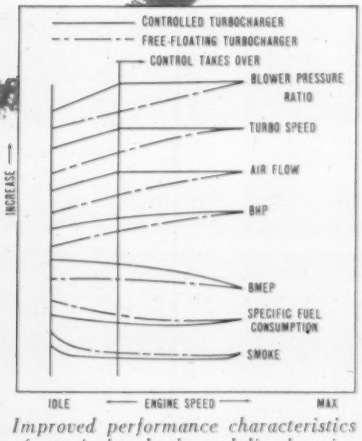


## AiResearch control system keeps turbocharger output at ideal level




*Improved performance characteristics of a typical turbocharged diesel engine equipped with the new AiResearch Turbocharger Control System.*

**Accurate control of turbocharger speed over its complete range regardless of changing load characteristics** has been achieved with the new AiResearch Turbocharger Control System. This automatic control system delivers more air to the engine when needed and greatly increases torque rise, giving turbocharged diesel engines greater lugging ability when operating under heavy loads. By contrast, free-floating turbochargers operate at reduced RPM when the engine is working at below-maximum engine speed.

This improved air delivery system greatly increases the acceleration, for example, of turbocharged diesel trucks up steep grades. In a typical case, the round-trip time of a trucking company operating between Phoenix and Denver was cut from 48 hours to 42 hours. Over short hauls an off-the-road truck cut its 27-minute round-trip time to 18 minutes. Comparable gains are made for all types of turbocharged diesel equipment, stationary or mobile.

The two components of the new control system are a pressure ratio sensor and an exhaust by-pass valve. They control the speed of exhaust-driven turbochargers by modulating the amount of engine exhaust used. This eliminates overspeeding of the turboblower, and at the same time provides higher turboblower speed while lugging. Smoking is virtually eliminated under all conditions.

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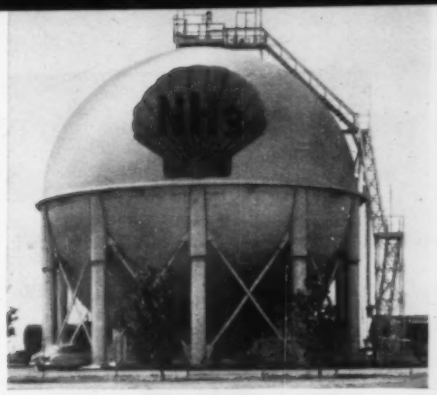
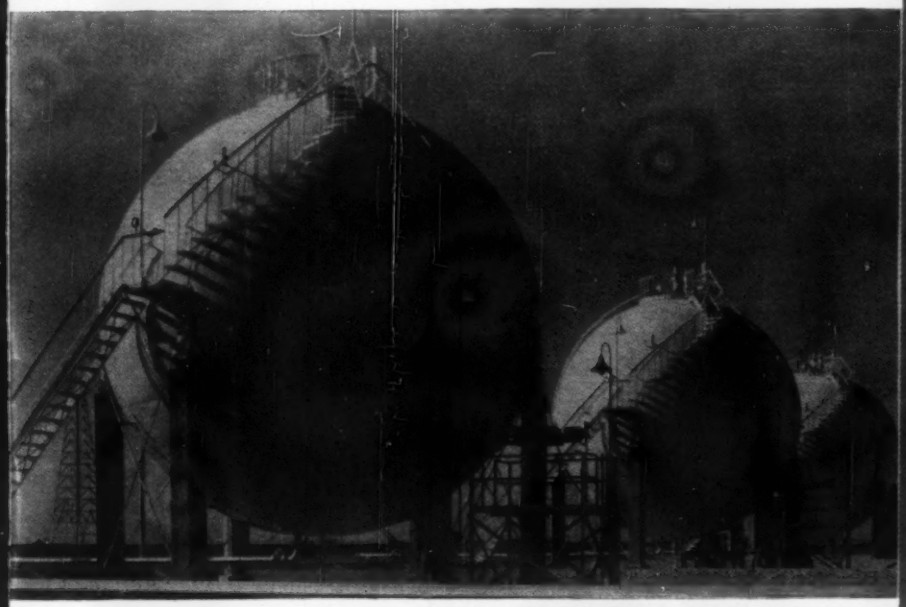
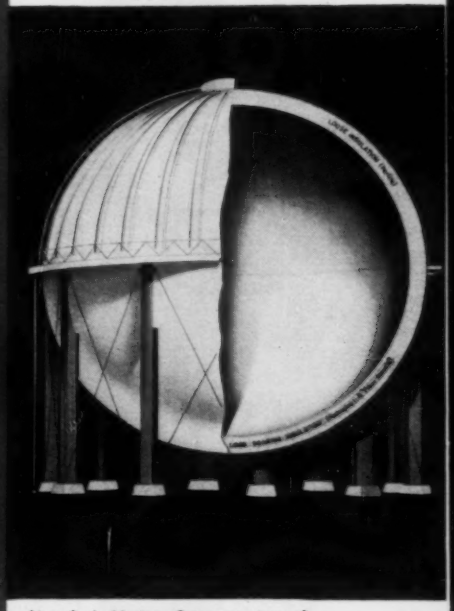


Ammonia. 64 ft dia, 55 lb working pressure

Isobutane. 50 ft 6 in. dia, 60 lb working pressure



Gasoline. Three 2500 bbl spheres, 30 ft dia, 20 lb working pressure



Liquefied chlorine. Cutaway view of insulated storage sphere

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biles and paid for by auto owners and that other highways be built for trucks and paid for by truckers.

GEORGE J. MASON
*Bloomfield, Ind.*

## Unnecessary Interruption?

SIR—The "Boltless Column Base" designed by Pregnoff & Matheu (ENR Sept. 11, p. 100) brings several things to mind. This design seems to require an independent pour of the column below to the underside of the floor, then setting of the plate, followed by placing of the floor concrete.

If this is true, it would seem the pouring cycle is interrupted unnecessarily. In addition, there is the problem of setting the heavy plate and dowels in wet concrete and then getting it accurately levelled.

If the plate is erected before concreting the column, can the builder position it accurately and leave room for vibrating, too? Our experiences in the field along this line have given us some difficulty.

IRWIN G. CANTOR
*Structural Engineer*
*New York, N. Y.*

## Pursuit of Sources

Sir—There is something else wrong with the public education system in the U. S., if it taught your editorial writer (ENR Oct. 9, p. 100) that a phrase in our Constitution guarantees the right to pursue happiness.

John H. Wells
Melrose, Mass.

**Editor's Note: Credit the Declaration of Independence instead. But credit Mr. Fadiman for being correct in his contention that a perversion of that phrase has been harmful to U. S. education.**

---

The Timken ad on the fourth cover of ENR, Oct. 9, referred to a TV show that had already taken place. The reference should have been deleted from the advertisement.

## CALENDAR

**National Society of Professional Engineers, fall meeting,** St. Francis Hotel, San Francisco, Calif., Oct. 23-25.

**American Concrete Institute,** regional meeting and headquarters dedication, Statler Hilton Hotel, Detroit, Oct. 27-28.

**International Asphalt Congress,** third meeting, Paris, France, Oct. 27-29.

**Water Resources Conference,** Washington State Institute of Technology, campus of State College of Washington, Pullman, Wash., Nov. 6-7.

**Galvanizers Committee, American Zinc Institute,** 39th meeting, Pick-Roosevelt Hotel, Pittsburgh, Pa., Nov. 6-7.

**Institute of Traffic Engineers,** 28th annual meeting, Hotel Deauville, Miami Beach, Fla., Nov. 10-13.

**The Society of the Plastics Industry, Inc.,** 8th national exposition and conference, International Amphitheatre, Chicago, Ill., Nov. 17-21.

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The Mahon-designed curtain walls of Alcoa Aluminum used here are roll-formed for quick field erection. They're light in weight, go up fast. They allowed early occupancy of this 547,000-sq-ft building.

Alcoa's pioneering achievements in aluminum are brightening the industrial skylines of America—both from cost and appearance standpoints. Call your nearest Alcoa sales office for complete data and technical help. Or write Aluminum Company of America, 860-X Alcoa Building, Pittsburgh 19, Pennsylvania.

*Building:* Pittsburgh Screw and Bolt Corp., Mt. Pleasant, Pa.

*Engineers and Builders:* The Austin Co., Cleveland, Ohio

*Panel Fabricator and Applicator:* The R. C. Mahon Co., Detroit, Mich.

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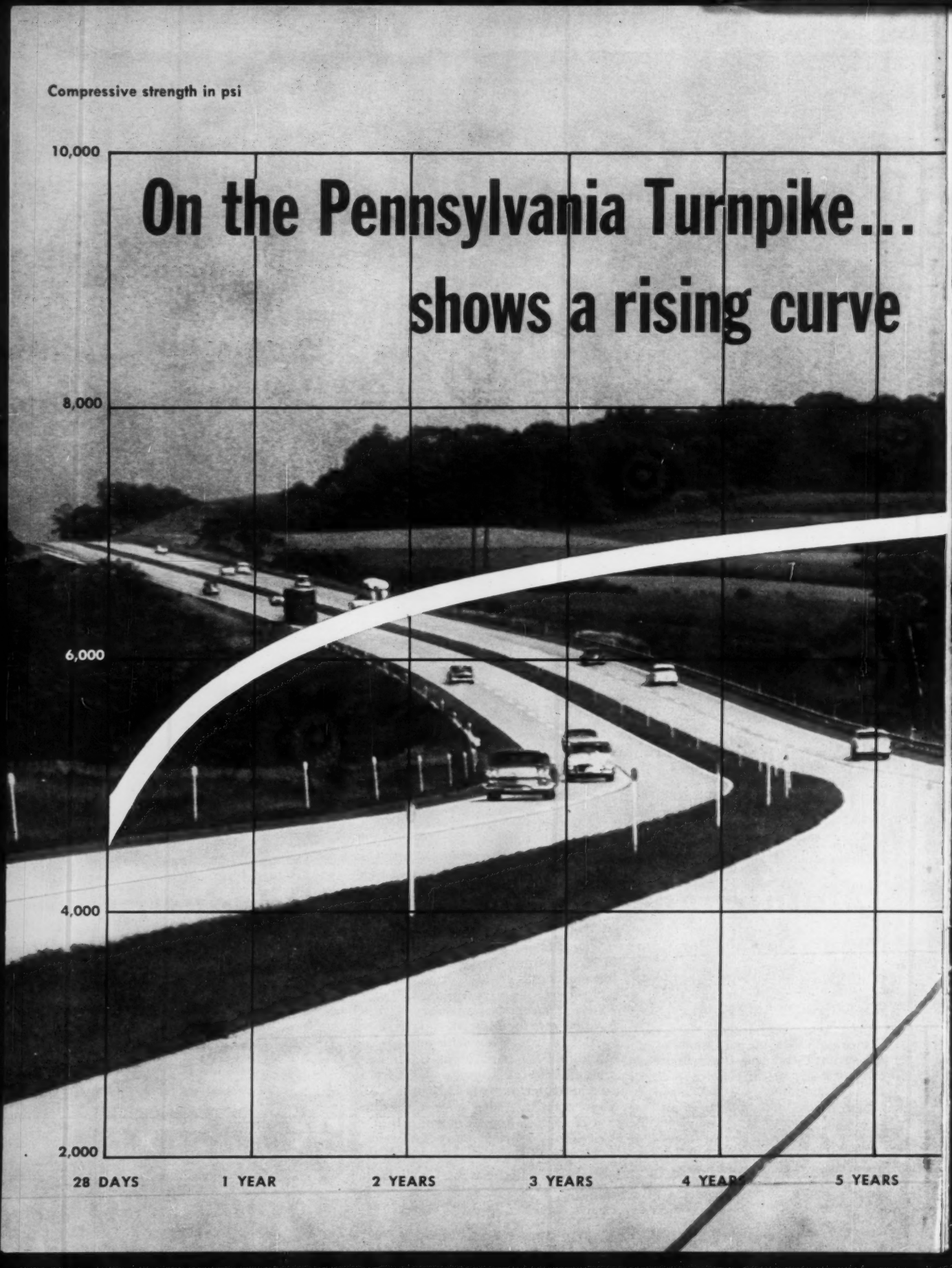
Compressive strength in psi
10,000
8,000
6,000
4,000
2,000
28 DAYS
1 YEAR
2 YEARS
3 YEARS
4 YEARS
5 YEARS
On the Pennsylvania Turnpike...
shows a rising curve

# CONCRETE

## of strength year by year!

6 YEARS 7 YEARS

**Actual core tests just completed on this pioneer turnpike system tell the story.**

Concrete cores recently taken from the eastern extension of the Pennsylvania Turnpike showed an average compressive strength of 7,226 psi. Only seven years ago cores were taken from the same locations and tested at an average 90-day compressive strength of 5,068 psi. An impressive strength gain of 29% had taken place.

A basic characteristic of concrete had been proved again. Concrete constantly *increases* in strength.

This strength "bonus" is one reason engineers stayed with concrete for *all* the Turnpike extensions. Concrete is *predictable* . . . the only pavement that can be mathematically designed to specific wheel load requirements.

Today's concrete pavement, with its specially designed subbase and air entrainment, has a life expectancy of 50 years and more—with low maintenance cost. It is the preferred pavement for all heavy-duty roads as well as for the Interstate System.

**PORTLAND CEMENT ASSOCIATION**

*A national organization to improve and extend the uses of concrete*

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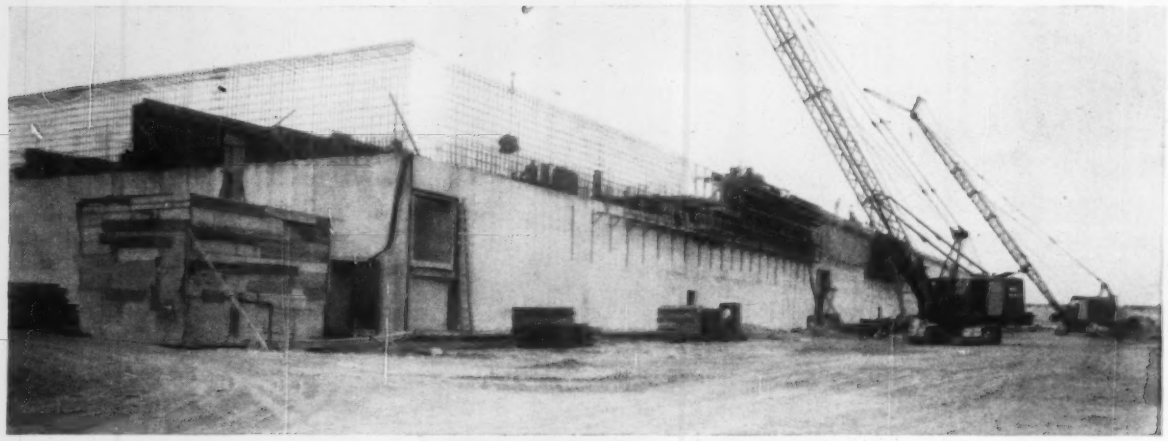

This 960 m.g.d. water filtration plant—the world's largest—is rapidly going up on Chicago's lake front. Contractor for filtered water reservoir: Herlihy Mid-Continent Co. Contractor for east and west half of filter substructure: Gust K. Newberg Construction Co. Architecture and engineering: The City of Chicago.

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# ENGINEERING NEWS-RECORD

Vol. No. 161, No. 18 October 30, 1958

Number of copies printed this issue 83,349


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*Back issues of* ENGINEERING NEWS-RECORD *are generally available for the previous six months. Semi-annual indexes will be sent on request.* ENGINEERING NEWS-RECORD *is also indexed in Industrial Arts Index*

## THE CONSTRUCTION WEEK

**ASWAN AT LAST?**—No date has been set yet for start of the new Aswan High Dam, a United Arab Republic source told ENR this week. Russia's $100 million offer last week may provide the necessary boost to get the on-again-off-again project going. The Soviet loan is earmarked for the first section of the $310 million irrigation project. Both the U.S. and Russia withdrew offers of aid in 1956 for the 361 ft high, three-mile long dam, also known as Sadd-el-Aali (ENR Feb. 9, 1956, p. 44). The 4,300 ft rock fill will impound 105 million acre-ft five miles upstream from the existing Aswan Dam, which is 56 years old.

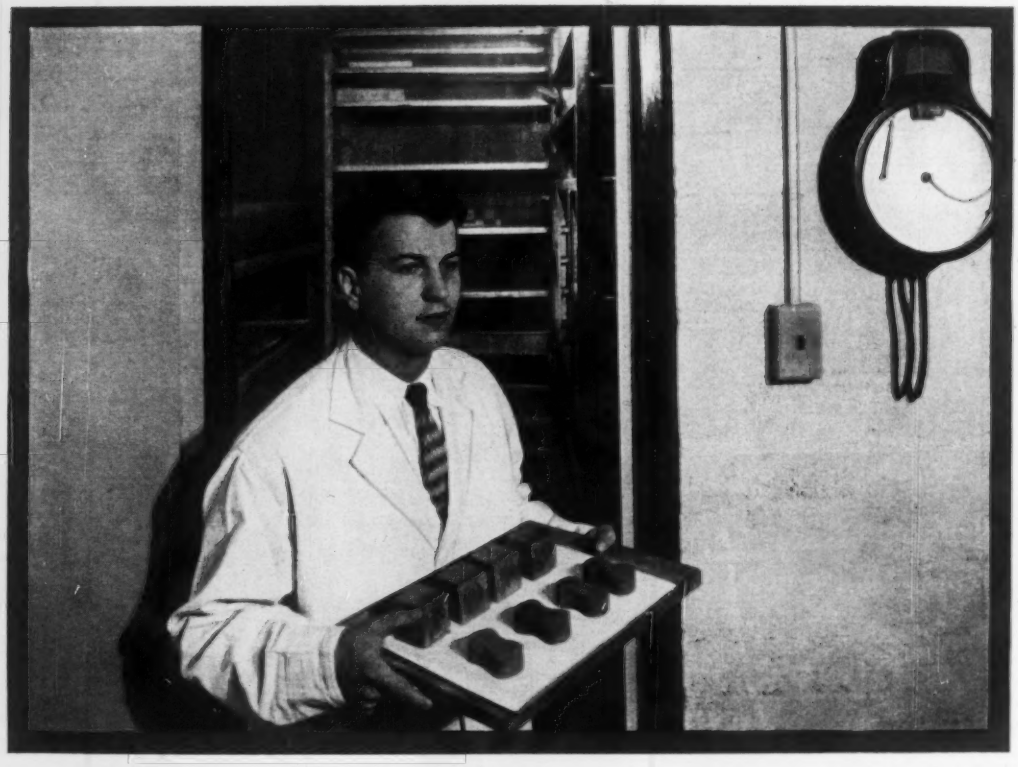
**MYSTERIOUS BLAST**—Origin of an explosion that did $5 million damage in the business section of Ottawa, Canada, last Saturday was still undetermined after the first two days of investigation. Two low buildings and a theater were demolished. In a 10-story building across the street, windows were broken and interior partitions damaged. Windows were cracked a quarter mile from the blast.

**PROMOTING PROGRESS**—The American Institute of Steel Construction will spend over $100,000 a year for research and development. To raise the money, dues will go up November 1. President N.P. Hayes announced the move Monday at the opening session of AISC's 36th annual convention.

**END OF THE ROAD**—Present terminus of the Massachusetts Turnpike at Weston probably will remain unchanged. As predicted by ENR a year ago, there's little hope for the controversial 11-mile extension to Boston. The market for tollroad revenue bonds is so poor that bonds to finance the $150 million project probably could not be sold; this view comes from the staunchest advocate of the extension—Phillip H. Kitfield, chief engineer for the Turnpike Authority.

**BOOK OF THE MONTH**—Houston's new building code, just published at $20 a copy, won't make the best seller list. The local homebuilders' association protested the code was obsolete. So the City Council voted to suspend use of the new code for 90 days until an alternative can be decided on.

**LAST HURDLE FOR NARROWS?**—New York City's Board of Estimate has put off final action on the controversial Brooklyn approach to the Narrows Bridge—but only till after election day. Then observers expect the plan will be approved. The $260 million bridge itself, a record-breaker with 4,400 ft suspension span, was given board approval after lengthy hearings on an alternate "Liberty Bridge" scheme.

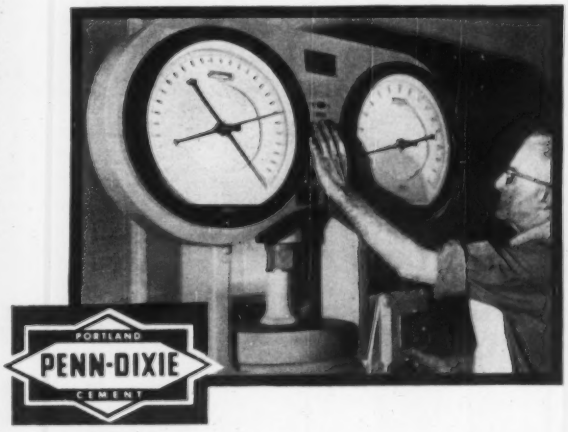


# Penn-Dixie's "Moisture Room" Creates Weather For Testing

Penn-Dixie exercises strict control at every step of cement manufacturing. Hourly samples taken from the millions of tons of cement produced annually must meet the same rigid specifications.

After the final grinding process, batches are mixed and molded into cubes for testing compressive strength and into briquets for testing tensile strength. The specimens are then placed in the lab "moisture room" for curing. This room is maintained at a 73° F. temperature with 95–100% relative humidity, according to ASTM specifications. These controlled conditions are constant in Penn-Dixie's testing program. The specimens are put through compressive and tensile strength tests after 1, 3, 7 and 28 days of curing. Each must meet the quality standards maintained by Penn-Dixie.

From the testing of raw materials while they are still in the earth, through the final stages of manufacturing finished Portland cement, Penn-Dixie's quality control assures consistent top-grade uniformity.

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# WASHINGTON OBSERVER

- FHA shift won't hurt housing
- Fluor gets the nod for federal plant
- Depreciation funds: Expansion's backbone

● **Housing starts won't be slowed down from lack of FHA mortgage insurance commitments.** That's the word from FHA officials analyzing the industry reaction to their drastic decision to issue mortgage commitments only to builders who have customers ready to buy.

**There was fear this would cause speculative builders to pull in their horns.** Already FHA finds two signs that indicate the attempt to ration its mortgage insurance authority to last until February is going to succeed without putting a sharp lid on housing starts.

**For one thing, big lending institutions say they will keep on as they have been**—making FHA mortgage loans, and construction loans to builders. The same is true of the insurance companies heard from so far.

**They're finding the FHA "letter to insure" is just as good as the regular signed commitment.** They accept FHA's pledge to insure when the insurance fund makes it possible for FHA to do so. The fund is expected to be built back quicker because of the new drive to call back unused commitments. First week's reports from FHA field offices indicate a big volume will be turned in immediately—perhaps as much as $750 million in insurance authority.

—

● **The Bureau of Mines has begun negotiating with Fluor Corp. for design and construction of a $12 million helium extraction plant** in the Keyes natural gas field in Oklahoma.

**The government wants the plant completed by August of next year**—about eight months sooner than it would have been under conventional bidding procedure. Helium is needed for defense and atomic programs.

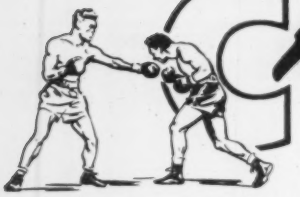
**Fluor is the first in a group of eight companies judged best able to meet the completion date.** If a contract with Fluor isn't signed, Bureau of Mines will open negotiations with the next firm on the list of eight. There may be a fuss over the negotiations from some of the 80 firms that were interested in getting the job.

—

● **A new government study details how important depreciation allowances are to construction of new plants** and other forms of capital investment.

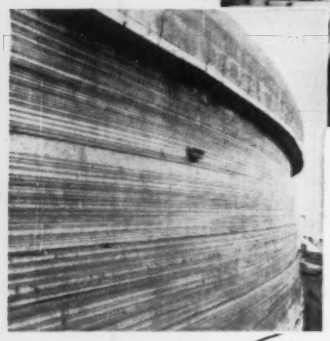
Depreciation funds accumulated by companies from past investment in new plants have constituted the largest single source of plant financing over the last eight years, according to Herman I. Liebling, of the Office of Business Economics of the Department of Commerce. In 1950, only one-fourth of corporate spending on new plants and equipment came from tax write-offs; in 1957, they amounted to nearly one-half.

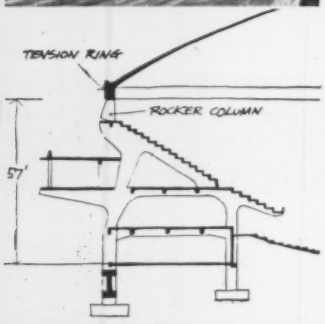
**This year, funds available from depreciation allowances will hit an annual rate of nearly $21 billion.** Average depreciation rates have increased. Furthermore, says Mr. Liebling, the 1954 tax law revisions—in effect allowing two-thirds of the cost of a plant to be written off in half the life—have a potential impact "far greater" than that of the Korea program related to defense essentiality, which gave fast tax write-offs to more than $39 billion of expansion.



# Championship Material

1,146 WRAPS of prestressing wire on tension ring induced a compressive force of 14,000 lbs. per circumferential foot. Ring rests on rocker columns which absorb internal stresses and force of high velocity winds.






CROSS SECTION shows how monolithic dome and tension ring rest on hinged rocker columns, supported by stadium wall. Outer foundation is a 10' deep continuous ring girder.

## *Versatile Concrete Scores Victory in Cuba's Magnificent Sports Palace*

● Five miles from the heart of Havana, in 65-acre Sports City, stands a monument to Progress as well as Athletics —Cuba's magnificent new Sports Palace.

Boasting the largest concrete dome in the Western Hemisphere—with 286' interior diameter—the building accommodates 18,000 spectators without a single pillar or post to block vision.

To absorb the stresses inherent in the flat shape of the dome (which rises only 40', or a 1:7 height-to-diameter ratio), and to withstand winds of hurricane force, the dome's perimeter connects with a prestressed concrete ring 3' thick and 5' high. This tension ring rests in turn on 24 reinforced concrete rocker columns, hinged top and bottom to absorb both internal and external stresses.

Ranking as one of the world's finest arenas, this project required 32,500 barrels of El Morro Cement, made by Lone Star's Cuban subsidiary, La Compañia Cubana de Cemento Portland. 28-day strength of dome concrete was 4,500 psi.

Owner: **COMISION NACIONAL de DEPORTES**

Architects: **ARROYO y MENENDEZ**, Havana

General Contractors
**CONSTRUCCIONES CODECO, S. A.**, Havana

Structural Frame and Dome Design, Dome Construction, and Prestressing by
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# Safety: Still a Long Way to Go

J. Roland Carr
Associate Editor, Engineering News-Record

Construction safety isn't something you can touch, see or smell. But it can be learned, taught and sold. It's an attitude, a way of life.

That's what engineers and contractors were told in Chicago last week where more than 12,500 persons attended the 46th National Safety Congress.

During the week-long congress, more than 900 program participants covered the entire field of accident prevention in industries ranging from aeronautics to wood products. Constructor interest centered on the two sessions of the construction section.

The National Safety Congress serves as a forum for safety accomplishment and as a springboard into safer practices.

Here's what some of construction's safety experts say about accident prevention:

- Construction safety has come a long way but still has long way to go.
- Education continues to be one of the most important keys to the accident problem.
- Safety as a humanitarian and economic attitude must be sold all the way from top management down.
- Workers must first be informed, then persuaded, and, finally, convinced that safety pays.

Accident rate figures (right) show that construction has developed some of this safety consciousness. The industry ranks today as the fifth most hazardous. (More hazardous are sailing, lumbering, coal mining and mining other than coal.) Construction's accident rate has been cut to one third of what it was 30 years ago but it still fluctuates from year to year. The accident severity rate (lost time measured against total man-hours worked) has been halved since 1930, although lost time per accident is up.

This year's congress made clear that a great mass of accident-prevention information has been compiled; the big problem is to get it into the proper hands.

**Big contracting firms with well organized, alert safety divisions are making great strides in accident-prevention. But small contractors, subcontractors or specialty contractors, who generally don't have safety specialists, often don't know what constitutes adequate safety on the job.**

Part of this is their own fault; but the fault often lies with those responsible for making the latest safety advancements available to those who need it.

Manufacturers of construction safety equipment say the big contractor often has distinctly different attitudes about safety programs than the small one. The large contractor, with his well established, efficient safety division, keeps abreast of new developments in safety equipment. He doesn't try to economize on safety equipment for his workmen. The small contractor, on the other hand, is often prone to "make do" with the old, sometimes inadequate, safety equipment.

But in both cases, the manufacturers say, the biggest problem is getting the workman to use his safety equipment; to wear his hard hat when the work demands it and to practice what he learns at safety meetings.

**• Change coming**—In the past the construction section has spread its safety gospel on a personal contact basis, designed to reach the safety engineer through his company. But this year's accelerated program will emphasize distributing information through contracting and construction associations such as Associated General Contractors, American Road Builders Association, National Association of Home Builders and construction trades associations.

The construction committee, through its long and close association with AGC and ARBA, is driving its safety messages home to an estimated 7,000 contractors. But it has not yet been successful in bringing its material to some 25,000 homebuilders.

The committee plans to set up conferences with homebuilders and federal officials in the homebuilding agencies.

Reaching these smaller contractors, who may total 50,000 or more, is one of the challenges confronting the construction section at the present time. These groups must be reached and sold on the necessity for increased accident prevention on the job. Special material will be developed this year by the committee and meetings will be held with specialty contractors to see what's needed.

**• Equipment needed**—Manufacturers argued that they have the latest and best safety equipment, if contractors would buy it in adequate quantities, tailored to fit their job requirements.

Newly developed or greatly improved safety equipment exhibited represented practically all basic items: safety belts and bosun's swings; shock absorber safety ropes and slings; hard hats and safety shoes; welding helmets; goggles and pocket respirators; ladders and scaffolding; material lifting slings; and crane boom electrical protective devices.

Safety belts now come in an assortment of vivid colors. Bosun's swings have safety waist belts adjustable both vertically and circumferentially to fit the occupant better. Safety rope with a 10 in. length of unstretched nylon, capable of stretching to 50 in. with increasing resistance, will do much to cushion a fall, while a newly developed rope-grab shock absorber limits the impact to about 600 lb regardless of the distance a man falls.

New and improved hard hats are lighter in weight, more comfortable and offer greater protection than former models. Some models are aluminum; others are made of tough, resilient, unbreakable, chemical-resistant plastic.

Welding helmets and face shields made of fiber glass, aluminized plastic

**Here's Construction's Accident Record**

| Year | Frequency Rate[1] | Severity Rate[2] |
|---|---|---|
| 1930 | 51.57 | 5,490 |
| 1935 | 28.24 | 4,520 |
| 1940 | 33.47 | 3,580 |
| 1945 | 19.84 | 2,270 |
| 1950 | 19.34 | 2,720 |
| 1951 | 20.92 | 2,460 |
| 1952 | 17.34 | 2,480 |
| 1953 | 15.68 | 2,060 |
| 1954 | 17.29 | 2,290 |
| 1955 | 19.33 | 2,368 |
| 1956 | 19.10 | 2,375 |
| 1957 | 19.72 | 2,616 |

1 Frequency rate shows the number of disabling injuries per one million man-hours.
2 Severity rate represents the days lost per one million man-hours.

and aluminum are cooler, lighter and designed to provide a more comfortable fit.

Safety shoes continue to be improved: They are stronger, more comfortable and look better. One manufacturer exhibited 50 models ranging from full length hip boots to safety dress shoes for men and women; one model features three overlapping steel plates for protection of the instep, the ball joint and the toe.

Safety masks and goggles have many improvements and come in a wide variety of designs depending upon their function. New models show a trend toward a more comfortable fit, better visibility and better protection from flying particles, dangerous light rays, glare and flying sparks.

Two new protective devices lessen the possibility of crane operators being killed in accidents involving contact between crane booms and overhead power lines. One is an insulated, ball bearing swivel 3-ton lifting hook that resists 34,000 volts of electricity. The other is an electrical shield safety guard for boom cranes that protects the boom from electrical shock up to 14,400 volts.

• **Panel sessions**—A four-man panel of vibration damage specialists explored two of the industries big headaches: how to blast near buildings, and how to measure and control blast vibrations. Instrumentation developed during the past several years simplifies the job of recording and measuring vibrations. The big problem is to interpret the data and to present technical findings in easily understandable terms for court damage cases.

Consensus was that the pre-job surveys of potential blasting damage should be made in considerable detail, especially for short blasting operations. Pre-job surveys for blasting operations of long duration need not be as detailed since there is enough time to make regular additional surveys.

In both cases, however, accurate records that can be substantiated in court will reduce the possibility of excessive damage claims.

Contractors' safety problems in metropolitan areas are too numerous to mention, according to Howard G. Dixon, vice president, Johnson, Drake and Piper, Inc., New York City, who presented an analysis of some of their causes and cures.

These problems are most acute in tunnel and subway construction—and the hazards are reflected in record insurance rates. Working under compressed air is always hazardous, Mr. Dixon points out, and protecting workmen from the effects of the "bends" is still one of construction's most baffling safety problems, despite improved protective devices.

Compressed air workers should be furnished with identification tags indicating the nearest medical air lock addresses to which he should be rushed if found ill. Compressed air illness can easily be mistaken for drunkenness. If the victim is left alone or sent to the police station, serious consequences may result from the delay.

Demolition of buildings and structures is invariably dangerous work requiring the greatest measure of safety, Mr. Dixon pointed out. Many general contractors sub this work to demolition specialists. In building erection, a not-so-hazardous operation, a new type of safety life net is now available. It is less bulky, lighter in weight and easier to handle than those normally used. The net is made up in units measuring 20 x 40 ft, of $\frac{3}{8}$ in. cotton cord woven in 2 x 2 in. squares with $\frac{1}{2}$ in. Manila rope binding and metal eyes in each corner. The units can be laced together to form practically any size net desired, Mr. Dixon explains, and they have been tested to withstand loads in excess of 300 lb.

• **Wide membership**—The construction section, with a membership of over 300, represents a cross-section of the entire construction safety field. It is made up of safety engineers for construction and insurance firms, the Corps of Engineers, Bureau of Yards and Docks, Bureau of Reclamation and other government agencies. It also includes representatives of the Associated General Contractors, American Road Builders Association, and the National Home Builders Association.

Contractor interest in the construction section's safety programs is shown by the 28 top management men who help plan and direct the safety campaign.

In addition, 55 professional safety engineers in these organizations are developing material used in the safety promotion. They develop material requested by top management and play a major information role by writing about the results of their own experiences in selling safety.

Much of this material deals with the psychology of safety on the job: how to mold the proper attitude of the construction worker and supervisor toward accident prevention.

During the past year, progress toward safer construction was sought through the construction section's five divisions: Heavy, Highway, Building, Homebuilding and Specialty.

The construction section is now preparing eight new data sheets. They deal with construction hoists and elevators; wind damage to masonry walls; fire prevention and control on construction projects; tilt-up and lift-slab concrete construction; open excavation; skull crackers in demolition work; crane boom-power line contacts; and handling and storing material on construction projects. Also currently in preparation are five construction safety films.

• **More West Coast coverage**—Next year the construction section hopes to get better coverage in distributing its safety material, especially to the West Coast.

With this in mind, Herb Westlund, chief engineer, Argonaut Insurance Co., Menlo Park, Calif., was drafted to serve as one of the vice chairmen of the executive committee.

In addition, William G. Hawkins, reelected for a second term as general chairman of the committee, will be moving to the West Coast. Director of insurance and safety for Winston Bros. Co., Minneapolis, for the past seven years, Mr. Hawkins becomes director of safety for A. Teichert & Son, Inc., Sacramento, Calif. Henry J. Massman, III, vice president, Massman Construction Co., Kansas City, Mo., is vice-general chairman of the executive committee.

# Dravo Drama Plays It Safe

A ten-man repertory company, made up of Dravo Corp. officials, put on a play at the Safety Congress. It was written, directed and produced by them, aimed at promoting safety consciousness. It won rave reviews from the executive committee.

Based on a safety training program instituted several years ago to indoctrinate new employees with Dravo policies, the play takes a typical group of new men through conferences with the job timekeeper, safety coordinator, specific craft stewards, toolroom attendant and finally with the general foreman.

Main point of the presentation is that construction management is convinced job-safety is vitally important, and that management is squarely behind safety programs and will continue to push them. The play advocates increased labor participation in safety training and operation, free supply of personnel protective equipment, reporting all injuries and maintaining complete first-aid facilities at the site of the project.

To date, the fast-moving skit has been presented 14 times to a total estimated audience of over 7,000.

# Penn Pike: Old Timer at 20

The Pennsylvania Turnpike—model for twentieth century tollroads and still a money-maker—is 20 years old this week.

Last Monday marked the 20th anniversary of ground-breaking on its original 160 mile tollroad. That ceremony began an era of toll highway history that is now being eclipsed by the interstate road system of free highways.

In fact, the grandfather of all superhighways is now shopping around for a quick way to unload a $440 million bonded indebtedness so it too can become a free road. Even this old, successful turnpike can see that the day of the tollroad is past.

There is little doubt that this great toll facility was largely instrumental in the development of the public demand for better roads that culminated in the Federal Aid Interstate Highway Program of 1956.

When construction of the Pennsylvania Turnpike began, it was predicted that it would be the foundation of a national network of superhighways.

Walter A. Jones, first chairman of the Turnpike Commission, said, on dedication of the original section:

"I am confident that opening of the Pennsylvania Turnpike presages a new era in the development of this nation's transportation system; that this 160-mile superhighway will be the first link in an ultimate nation-wide system of express routes connecting the centers of population and industry."

It took less than 20 years to prove the accuracy of that forecast. The road's financial success, its value to the nation in time of war, its ability to accommodate the post-war traffic increase safely and swiftly—these assets sparked construction of tollroads in a number of other states. The Pennsylvania Turnpike served as the model for the second-generation tollroads and for the free roads now being built.

In spite of its over-all success, the turnpike has had a varied career. An abandoned railbed, a depression, two wars, politics and scandal have all affected its construction and operation.

Original construction was sparked by the availability of a right-of-way for a 124 mile long railroad that was started but never completed. Begun in 1883 by William H. Vanderbilt and heavily backed by Andrew Carnegie, the project was abandoned in 1885 with 60% of the road graded and seven tunnels driven. Pennsylvania purchased this railbed for $2 million and used it as a nucleus for the entire system.

• **Depression baby**—enabling legislation was passed in the midst of the worst depression ever experienced by the U. S., but financing problems almost killed the road before it was begun. The system jumped the money hurdle when the federal government's Reconstruction Finance Corporation purchased $40.8 million in bonds and the Public Works Administration approved a $29.3 million grant.

The turnpike has never been free of politics. Before work on the road was even begun, a change in the state administration brought talk of curtailing or eliminating the project. But by the time the first fare was collected on the original section, in October of 1940, enabling legislation had already been approved by the General Assembly for a 100 mile extension, from Middlesex to King of Prussia in southeastern Pennsylvania.

In 1941 the Assembly approved a 67 mile extension from Irwin to the Ohio state line.

World War II interferred with the construction of these two sections and it was not until November 1950, that the eastern segment of the road was opened. The western section was opened a year later.

Between November 1954 and November 1957 there were three other additions to the turnpike: a 32 mile Delaware River extension; the Delaware River Bridge linking the Pennsylvania and New Jersey Turnpikes; and the 110 mile northeast extension from Lymouth Meeting to a point north of Scranton.

• **Scandal rears its head**—It was in connection with construction of the latter section that scandal invaded the Turnpike Commission. In 1955, after a change of administration, several of the commission's former officials were convicted of conspiracy in a multi-million-dollar mine filling project, claimed necessary for a stable roadbed.

It is also on this section that the Turnpike Commission is meeting its only serious financial reverses. Revenues are so low that funds left over from construction financing are now being used to carry this section of the road. When the $132 million indenture on the main east-west road is paid, all revenues from it will go into a kitty to amortize the $298 million debt.

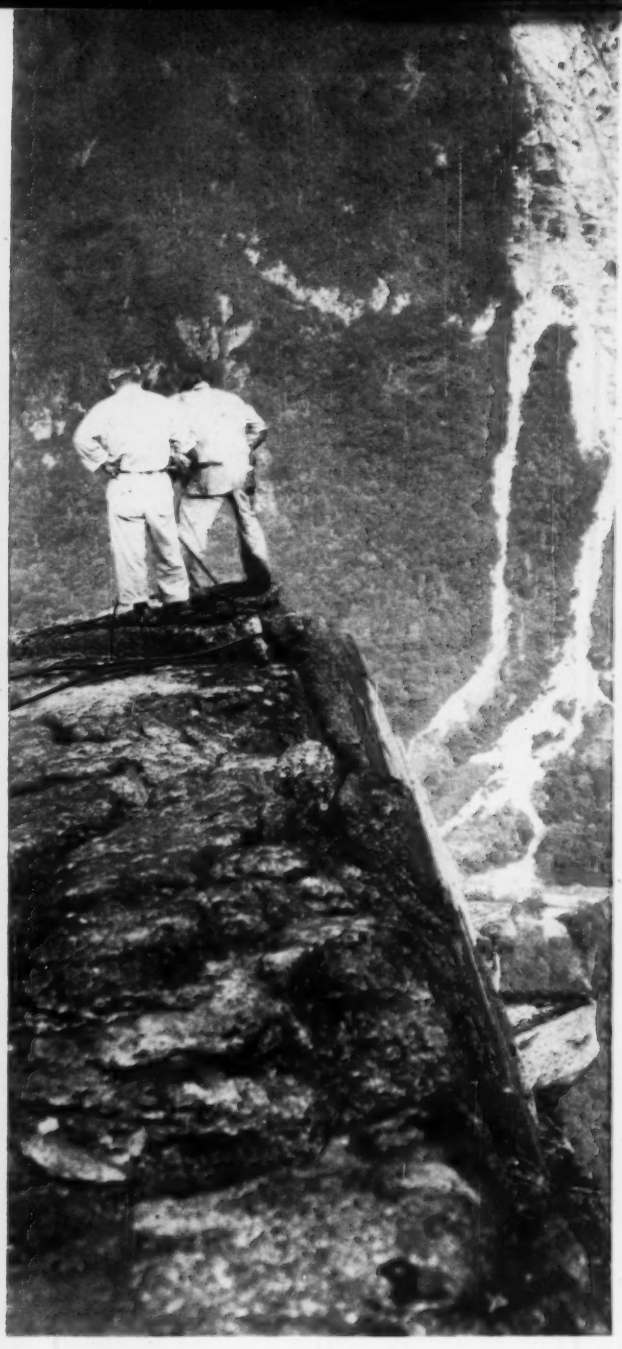
The Pennsylvania Turnpike has been a success despite these difficulties. It has paved the way for faster and safer highways. And it has proved a financial bonanza. During the last fiscal year, net fares from daily average of 70,000 vehicles reached a record of $32½ million. Additional revenues from service station and restaurant concessions added $1.7 million to this figure.

Thus even in the face of free road competition, the Pennsylvania Turnpike on the 20th anniversary of its inception is paying for itself. It was built for a total cost of one-half billion dollars. Investors presently hold $440 million worth of bonds and the balance represents equity that has accrued to the citizens of the state.

## North Fork Dam Nears Completion

The 185 ft high North Fork Dam of the Portland General Electric Co. is almost completed. Water from the 3 mile reservoir behind the dam on the Clackamas River, Ore., went over the spillway for the first time this month. The arch dam was designed by Ebasco Services, Inc., New York City, for power generation only. Guy F. Atkinson, San Francisco, is the contractor.

1 "Old Man of the Mountain" had a cracked skull.



2 So crews of experts were called in for repairs.

# The Great Stone Face Gets Face

The famed "Old Man of the Mountain" developed a foot wide crack in his head, but it was the New Hampshire Department of Public Works and Highways that ended up with the headache. The department was charged with curing the Old Man's sickness. And that was quite a job. It involved:

• Using a helicopter to build a heliport near the top of the almost inaccessible Cannon Mountain in Franconia Notch, N. H.

• Hauling by helicopter 10 tons of sand, 16 tons of crushed stone and 5 tons of cement, all packed in 50 and 100 lb burlap bags.

• Airlifting two tons of "U" bolts and eye bolts, a portable forge, 1 cu ft concrete mixer, an assortment of small tools and heavy rope.

• Building a cableway for materials and supplies from the mountain-top heliport down to the crown of the Old Man's head some 500 ft below.

• Tying men to the mountainside and putting them to work on a smooth-faced 22 to 25 deg slope at the edge of an 800 ft precipice.

Nature carved the Great Stone Face from pink Conway granite 600

**3** They tied themselves to the steep mountainside and drilled holes in his head.

**4** Loose rocks were anchored and his 300 ton forehead was tied to solid granite.

# Saving Repairs

to 800 ft up the mountainside. And nature has been doing its best to demolish it. Constant frost and wind action loosened some of the stones that make up the face, and a series of cracks in the granite had weakened the profile to a point where total destruction within a few more winters was feared.

Probably no split skull in history has ever received so much attention from so many specialists. Geologists and engineers made extensive studies and devised a plan for tying the head together with steel, covering the most serious crack with plastic tent and filling in the other cracks with a waterproofing compound.

The Waterproofing Engineering and Products Co. of Revere, Mass., placed the ties and filled the cracks. Miller Aircraft Corp. of Pittsburgh, Pa., delivered the materials. Sprague & Henwood of Scranton, Pa., core bored the 30 in. deep 2⅜ in. holes for "U" bolts used to tie the 300 ton forehead back to the crown and bored 2 in. dia holes in boulders and ledge to prevent future rock slides. The Franconia Notch Aerial Tramway Co. erected the cableway.

Now the Old Man is patched up, but the highway department hasn't lost its headache—it still has to make periodic inspections to be sure man has stemmed the onslaught of nature.

# Delaware Dam Sites Selected

Thirty-nine potential locations for major dams and reservoirs in the Delaware River watershed have been selected by the Philadelphia District Army Engineers. The disclosure was made at the 21st annual meeting of the Interstate Commission on the Delaware Basin in Atlantic City, N. J., by Col. William F. Powers, District Engineer. He presented the Army's survey report of the basin's water resources.

From this listing the Army hopes to devise by next January a preliminary plan for the development of the basin. The preliminary will serve as the framework for a comprehensive plan to be completed in December, 1959. Working together toward this end will be 16 federal agencies, the cities of Philadelphia and New York, the states of New York, New Jersey, Pennsylvania and Delaware, and the commission.

The major sites, according to Colonel Powers, offer a combination of uses—flood control, water supply, power and recreation.

Francis A. Pitkin, chairman of the Interstate Commission, told the conference that the major task in the area is to get "enough, but not too much, water at the right place at the right time."

The future of the basin, as viewed by Chairman Pitkin, will depend upon the effectiveness of the planning.

## Tidal Dam Stirs Debate

Damming the Delaware River near its mouth is the cheapest way to solve what will eventually be the downriver area's most critical problem—water supply. So said supporters of a proposed saltwater barrier last week in a public hearing at Wilmington, Del.

Opponents countered with a list of new problems they said the tidal barrier might create. These include stagnant water, harm to wildlife and fish, mosquito increase, closure of the port by ice in winter and loss of shipping to New York and Baltimore.

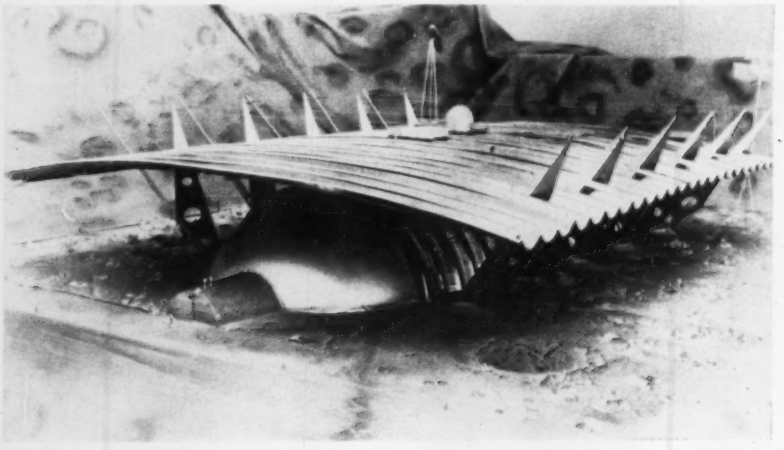
The all-day hearing was held by the Corps of Engineers' Philadelphia District as part of a $50,000 preliminary study to determine the project's feasibility. More than 300 people attended the hearing.

The State of Delaware urges construction of such a dam in the New Castle-Peapatch Island area. It would cost $200 million. The dam would block intrusion of saltwater from Delaware Bay and would impound a fresh water lake extending upstream to Philadelphia and Trenton. Those favoring the project, mainly from Delaware, say that future demand for water in the region below Trenton will justify it even if new problems created are expensive to solve.

Spokesmen for a Philadelphia port group point out that a dam across the lower Delaware would not be good from a navigation point of view. Increased time and expense of passing through locks to reach the ports upstream might divert shipping to other ports, they say.

A Camden shipyard registered strong opposition to the proposed dam even before the hearing. The public relations director of New York Shipbuilding Corp., whose Camden yard is constructing the supercarrier Kittyhawk, told the Camden County Chamber of Commerce the dam would raise the water level enough to force moving of several launching ways. He also says the dam would result in a constant downstream current of three miles per hour that would prevent launching of big ships at Camden.

The added depth and one-direction flow would, however, be advantageous to some, according to retired Brig. Gen. Norman M. Lack, credited with originating the barrier plan. He believes it would help water transportation and industries using large quantities of cooling water for condensers. He also says the creation of a fixed shore line would encourage water-front development.



# What to Build on the Moon

Plans for the "moon buildings" above will be submitted to the U. S. National Aeronautics and Space Administration this week. The scale model pictured was designed, in line with existing knowledge of the moon's surface and environment, by the Wonder Building Corp. of America, Chicago.

The structure is intended to serve as permanent living quarters for moon explorers and researchers, and as a maintenance shop for space vehicles.

Since the moon is believed to be covered by a sea of dust, the building was designed to float. It would be anchored by heavy weights suspended by cables from the body of the structure. Should the moon's surface prove to be sufficiently solid, the building could be supported normally.

The protective aluminum shield over the structure is designed to ward off meteoric dust which bombards the moon in great quantities.

The building would be 340 ft long, 160 ft wide and 65 ft high. Its shell is made of prefabricated aluminum parts and could be erected in four to six weeks, earth time, according to the manufacturer. The structure itself would cost only about $325,000. Shipping costs are not available.

## Giant Texas Warehouses Cover 2.4 Million Feet

Construction is underway between Dallas and Fort Worth on what will be the nation's largest privately owned and operated warehouse and trucking complex.

The first unit of the $20 million Great Southwestern Distribution Center will go into operation about the beginning of next year.

The center will consist of six warehouses, each composed of two units covering approximately 200,000 sq ft each. Each unit will accommodate 1,600 carloads of freight.

Walls and roofs of the warehouses will be of precast, prestressed concrete. Associated Architects and Planners of Texas are in charge of design for the project.

# NSPE Adopts "Unity" Plan

## Backs scheme to assign profession's interests among existing organizations; ASME president raps move

The National Society of Professional Engineers has formally adopted the "functional" plan for assignment of professional interests among several engineering organizations. The plan was first put forward by the American Institute of Electrical Engineers.

At its fall meeting in San Francisco last week, NSPE's 150-man board of directors adopted as policy the report of its inter-society relations committee covering implementation of the AIEE plan.

The functional plan (ENR July 18, 1957, p. 23) calls for AIEE to concern itself with technology for electrical engineers; for Engineers Joint Council to handle technological matters transcending the electrical field; for engineering education to be in the hands of Engineers Council for Professional Development; and for professional development and economic status matters to be handled by NSPE.

Whether the membership of NSPE would favor joining EJC—as has long been proposed—is doubtful, according to NSPE spokesmen. But the society's directors decided to continue studying the possibility.

Speaking of the NSPE move to back AIEE's plan, Garvin H. Dyer, past president of NSPE, said the societies in the engineering profession will have to be welded together gradually. The best approach he says, would be to use the framework suggested by AIEE, expand it where possible, and ultimately gain unity.

"It is our feeling that unity in the engineering profession will come through evolution and not revolution," he says.

• **NSPE's action**—The policy adopted by NSPE recommends that:

• The president be authorized to ask each of the five founder societies (civil, chemical, electrical, mechanical and mining) to name a member of its board or executive committee as a continuing observer. He would attend each NSPE board meeting with floor privileges. NSPE would pay his expenses.

• An exchange of helpful service be set up between NSPE and the five founder societies.

• NSPE services and publications be offered to each founder society that approves the functional plan—financing to be a matter of mutual agreement.

• NSPE publish and distribute a brochure on "unity and organization of the engineering profession." The brochure would cover the history, objectives and results of unity efforts.

• NSPE prepare a kit informing local chapters and state societies on how they can cooperate in implementing the functional plan.

• Liaison between NSPE, EJC and ECPD be coordinated at the organizational level rather than at the activity level.

• **Arguments against it**—Speaking at a luncheon meeting, James N. Landis, national president of ASME, said the other technical societies will not go along with the functional plan, despite the fact that ASME approved it in principle.

"The AIEE professional plan cannot be sold to the engineering societies, but the plan can be the core of a strong unity arrangement," he says.

While ASME's committee found merit in setting up three areas of joint activity, the plan is the opposite of a unity plan, Mr. Landis says.

"ASME wants NSPE to join EJC. We think the organization will profit. Other founding societies, except perhaps AIEE, will agree," he says.

• **On unions**—NSPE's president, Clark A. Dunn, criticized management for its "neutral attitude" toward attempts to unionize engineers. He warns that membership in labor unions will hamper creativity and endanger industrial progress. "Misguided neutrality on the part of industrial management regarding the unionization of engineers could result in a complete breakdown of the concept of professionalism in industry," he says.

Mr. Dunn calls this employer neutrality a denial by management of its duty to preserve the distinction between professional and non-professional services.

"Such an abdication of management's responsibility has led to a situation in the aircraft and other industries here on the West Coast in which many young graduate engineers have never heard an expression of support concerning professionalism from their employers," Mr. Dunn says.

He says a parallel to this problem now exists within the New York City government, where 500 professional engineers are faced with the possibility of being organized into a collective bargaining unit. According to its stated policies, NSPE will support efforts of these engineers to get into a special voting group so they can determine their own status.

# Polluting on Purpose

## Poison kills fish before reservoir is restocked

All fish in a 50 mile stretch of the Clark Fork River have been killed by poison as a preliminary to restocking the reservoir behind Noxon Rapids Dam in Montana with game fish. About 12½ tons of toxicants were placed in the river to kill existing fish before a three-year program of restocking with 800,000 rainbow trout a year begins this fall.

The objective of the project is to make this stretch a fisherman's paradise by eliminating non-game fish. Game fish can't compete with the increasing numbers of scrap fish in the river.

The Montana Department of Fish and Game and the Washington Water Power Co., which contributed $90,000 to the $130,000 project, hope the trout will be given a head start to hold their own against possible future infestation by scrap fish from upstream.

It's the first time a project of this nature has been carried out on a river of this size—Clark Fork has a minimum flow of 5,000 cu ft per second. Previously, the method has been used on streams and on still bodies of water.

Just enough toxicants—Rotenone and Toxephene—were applied to give a concentration of one part per million. This was enough to suffocate the fish, but not enough to affect important fishery resources downstream.

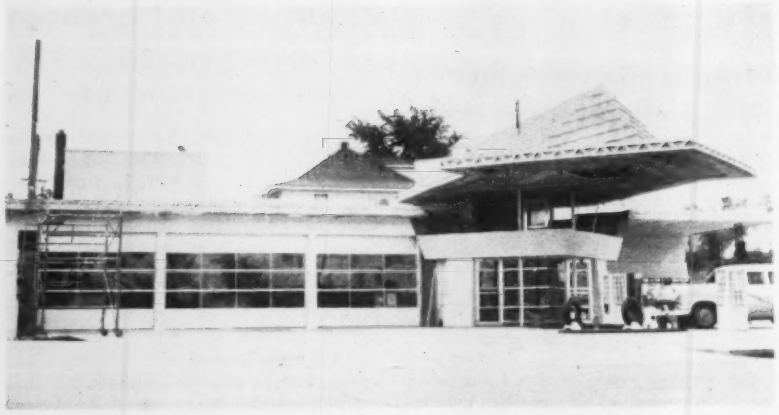
The poisoning was done over a weekend, when power demands dropped and the river could be brought to its lowest flow. Treatment was carried out in two stages. An 8 mile stretch above Montana Power Co.'s Thompson Falls Station was treated first. Then the gates of the power plant were closed and the river channel drained down. Treatment of the stretch between Thompson Falls and Noxon was started the next day.

After the toxicant is cleared from the river the restocking will start. Investigations will continue to determine changes in the fish population.

# Canadians Plan Pipeline To Carry Wheat to Ports

Canada is investigating the possibilities of piping wheat from the prairie provinces to the Great Lakes. The only snag, as yet, is the failure to find a suitable lubricant for the pipeline. It must reduce friction yet not damage the milling qualities of the wheat.

Cost estimates indicate transportation by pipe would be far cheaper than rail shipment now. Pressure from the railroads for higher freight charges makes the pipeline look even more attractive for the future.



**CANOPY ROOF OF COPPER SHINGLING** extends 32 ft over the drive area of this Frank Lloyd Wright designed service station. The building cost $100,000.

# Autoist Gets Eyeful for Tankful

The odd-looking gasoline service station above was designed by Frank Lloyd Wright and built for $100,000 in Cloquet, Minn.

The two-story, concrete-block structure is 88 ft long and 32 ft wide. Its canopy roof of copper shingling, aged with acid, extends 32 ft over the drive area. The building design is based on two types of modules—rectangular for work areas and diamond-shaped for office and second-floor solarium.

The service station uses three types of heating—radiant heating on the main floor, baseboard convector heat in the solarium, wall heaters for restrooms.

Interior illumination is a combination of recessed, surface, fluorescent, and incandescent lights. Work areas are supplemented by natural light entering through three skylights.

Three work bays are equipped to handle vehicles of all sizes and one is specially designed for sports cars.

Robert Pond, Detroit, Mich., supervised construction for Mr. Wright. Ray Lindholm, president, Lindholm Oil Co., the owner, was general contractor.

## $6.5 Million Job, $3 Million Bid Spread

Low bid last week on construction of a sewer tunnel under New York City's East River was more than a million dollars under the engineer's estimate. Poirier & McLane Corp., New York City, submitted a figure of $6,463,948. Four other bidders priced the job at $7.8 to $9.7 million. Engineers of the city's Public Works Department had estimated it would cost $7,487,000.

The tunnel will be part of the city's $110 million Newtown Creek Pollution Control project. Intercepting sewers for the plant are now under construction in Brooklyn. Later contracts will cover construction of the sewage treatment plant, the plant outfall, and interceptors in Manhattan. The project will eliminate 78 sewer outlets that presently pour about 310 mgd of sewage into Newtown Creek, the East River and the Hudson River.

The tunnel will be an 8½ ft dia concrete-lined bore through rock to carry sewage from downtown Manhattan to Newtown Creek Treatment Plant—a 310 mgd plant to be built in the Greenpoint section of Brooklyn.

Sanitary flow from Manhattan will be conveyed by two intercepting sewers to the Manhattan end of the new 8,045 ft tunnel. There a new pumping station will take over.

The down shaft on the Manhattan side will be 8¼ ft dia and 318 ft deep. Some 198 ft will be in sound rock. The up shaft at the plant will be 7½ ft dia and 318 ft deep—230 ft being through sound rock.

## Dallas Federal Center Enters Planning Stage

A design contract for the $24 million Dallas Federal Center has been let by the General Services Administration.

The new building will provide 987,100 sq ft of air-conditioned space for use by the federal courts and 17 executive agencies of the federal government. Congress specifies that the court and office building is not to exceed a cost of $24 million. The building will be about 20 stories high.

Dallas architects George Dahl and Mark Lemmon have been named designers for the project. It is due for completion some time in 1959.

## Horses Will Get a Break On Faster Saratoga Track

The engineering firm of J. Stephen Watkins, Lexington, Ky., will redesign and supervise the rebuilding of the Saratoga, N. Y., race track owned by the New York Racing Association. Watkins' firm also will act as consultants for the rebuilding of the Aqueduct and Belmont tracks. At present, the New York tracks are described as deep and slow.

Engineers have taken soil samples from the Saratoga circuit for analysis and testing. Rebuilding of the track is scheduled for completion in time for next July's opening. The project is expected to cost about $250,000.

The Watkins firm did a similar job three years ago at the Keeneland, Ky., track. The project there involved the removal of 1½ ft of the track base. This material was replaced by a base consisting of part of the original material combined with river sand.

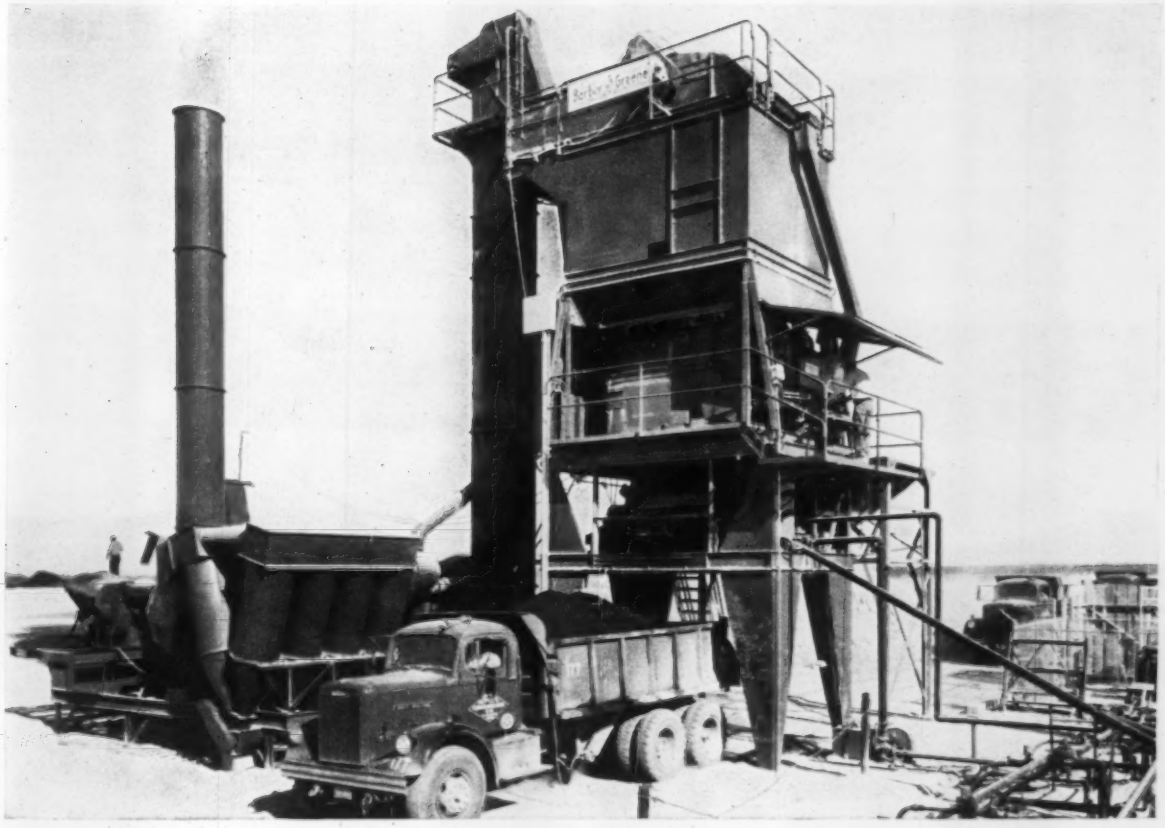
## News Briefs . . .

• **Using Computers**—The American Society of Civil Engineers will hold a conference on high-speed electronic computation at the Continental Hotel, Kansas City, Mo., Nov. 20-21. Subjects to be discussed include structural design by computing machines; computer solution of algebraic equations; organizing for computing in a consulting firm; and the impact of digital computers on engineering education. Programs are available from Frank M. Cortelyou, Jr., 802 Dwight Building, 1004 Baltimore, Kansas City, Mo.

• **Luxury Hotel**—Plans are being prepared for a $10 million luxury hotel to be built in Exchange Park, a Dallas commercial development. The 16-story structure will contain 500 rooms, and is designed to allow for expansion to 1,000 rooms. J. N. MacCammon & Associates of Dallas are the architects.

• **Treatment plant trouble**—The almost completed 100 mgd sewage treatment plant in Louisville, now operating at 25% of capacity, is having trouble with waste oil and bits of plastic in the sewage. The oil forms a scum on the settling tanks, cutting down their efficiency. The hard plastic objects, which appear to be protectors for fittings, stop the 40 hp grinders dead.

• **Pollution study expands**—Pennsylvania and New York have added the Chemung River to the list of streams involved in bi-state studies of sources and control of water pollution. Similar action has already been taken on the Allegheny, Susquehanna and the Delaware Rivers.



Barber-Greene BatchOmatics offer many exclusive advantages that assure higher tonnages at lower cost. Write for information.

# One minute ago this plant was producing a different mix

This Barber-Greene BatchOmatic has just produced a truckload of special mix, and the operator pushed a button which instantly returns the plant to its preset proportions to resume automatic operation. Such changes are made without delay and without loss of production.

M. M. Sundt Construction Company is using this plant to produce 23,000 tons of asphalt mix for the Arizona Air National Guard installation at Tucson Municipal Airport. At the same time the plant was called upon to produce mix of different specifications for Sundt's several other projects and for other Tucson contractors.

With the BatchOmatic, the operator can instantly switch from automatic to manual operation, weigh out one or several batches of a different mix, and instantly return to the preset proportions to resume automatic operation.

Besides their ability to change quickly from production of one mix to another, Barber-Greene BatchOmatics offer:

- Simultaneous measuring of all aggregate sizes—eliminates the human element in achieving accuracy and maximum capacity.
- New Dyna-Mix pugmill, which gives thorough coating faster than any other batch-plant pugmill.
- Instant, positive inspection of aggregate gradation and weight.
- Available in various sizes. Complete line of components for every mixing requirement.

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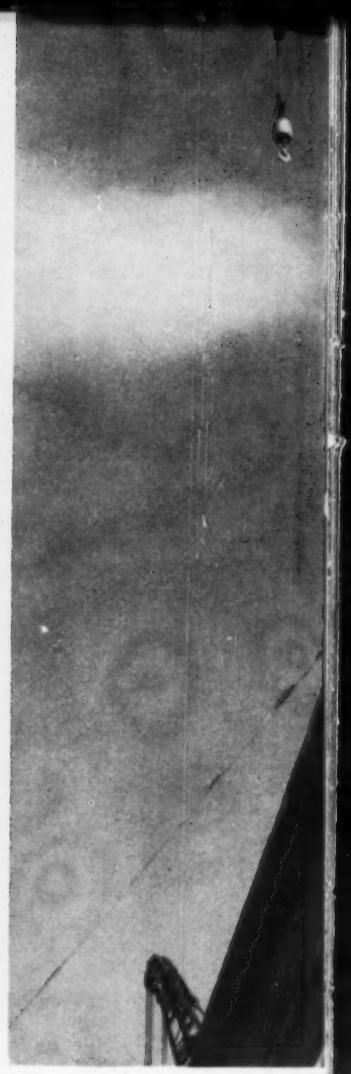
CONVEYORS . . . LOADERS . . . DITCHERS . . . ASPHALT PAVING EQUIPMENT



**Gymnasium girders span 100 ft between supports and weigh 43 tons each.** **The nine girders were**

# Precast Framing Goes to School

Edward H. Wells
Chief Engineer
Sargent-Webster-Crenshaw & Folley
Syracuse, N. Y.

High school students began classes last month at Scotia, N. Y., in a new senior high school framed completely in precast concrete.

Precast concrete was chosen because structural steel shapes were in short supply then. Precast framing was competitive with structural steel and somewhat less expensive than cast-in-place concrete. Construction cost of the building was only $1.22 per cu ft, compared with the median cost then of $1.27.

Most spectacular part of the framing is in the auditorium-gymnasium section, which is spanned by nine 100-ft post tensioned concrete girders. They were the only members cast at the site. All other units were fabricated in the concrete contractor's Syracuse plant and shipped by truck 150 miles over the New York State Thruway to the job site.

The two-story classroom wings are framed with precast columns and beams of 5,000 psi concrete supporting 10 and 12 in. TT planks. These precast planks were made of 3,750 psi concrete. All connections were made by welding matching steel plates cast in the members.

Floor and roof spandrel beams in the classroom wings act as simple beams under partial dead load. The beams were made continuous by grouting the end joints, embedding splice bars welded to the beam top steel.

Prestressed TT beams 16 in. deep form the roof construction over the cafeteria and shop areas where spans range between 40 and 50 ft.

To shape the gymnasium girders, the contractor shop fabricated plywood forms in sections and shipped them to the site. The single set of forms was used nine times to form all the girders. Concrete strength required for these members was 4,000 psi at time of post-tensioning and 5,000 psi at 28 days.

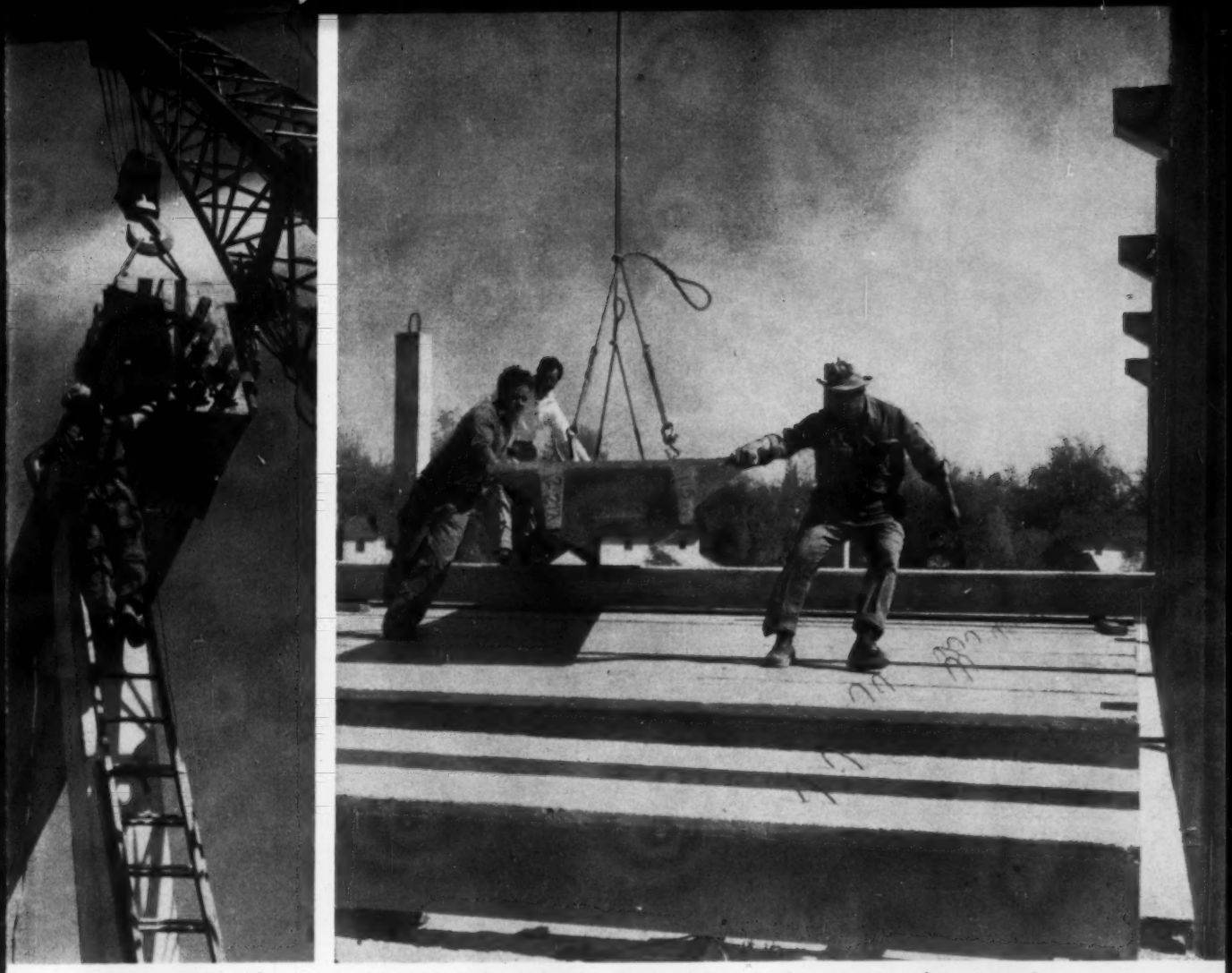
All exterior columns were cast in steel forms to obtain a smooth, hard finish. Cement used for these sections came from a single source to insure a uniform color around the finished building.

Sleeved baseplates were cast in the column bottoms. In erecting the columns, the contractor set the baseplate over four anchor bolts. By adjusting nuts above and below the plates, he was able to plumb the columns quickly and accurately. Then he welded the nuts and forced grout under the plates.

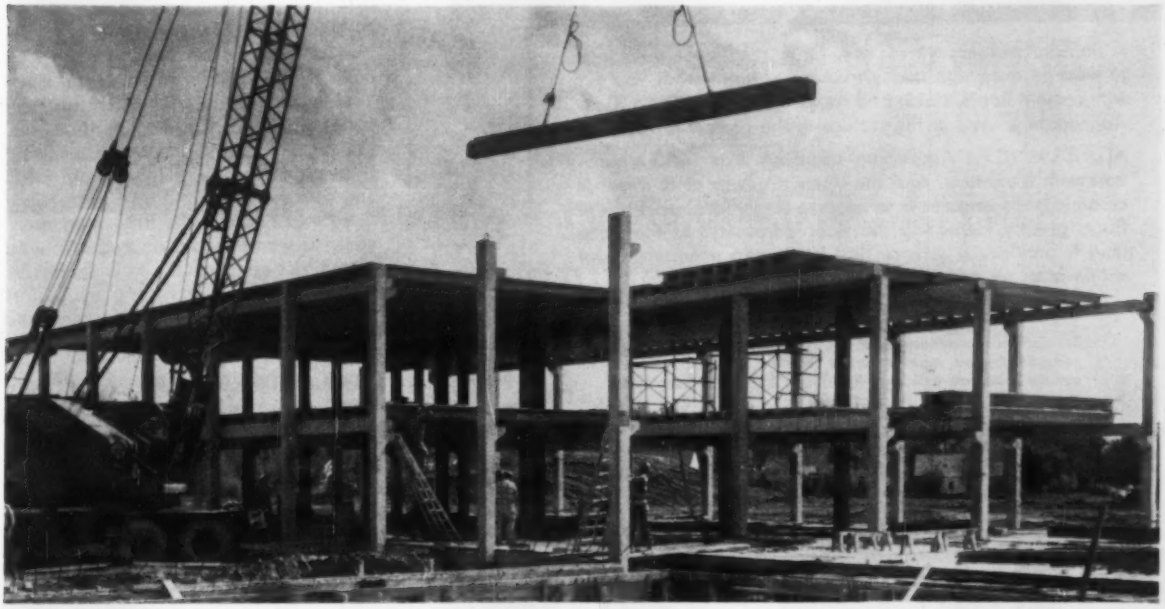
Exterior columns were left exposed. The walls were butted into them near the inner face.

Exterior walls in the classroom wings consist of concrete block with 1¼ in. green slate facing. Sash is aluminum with sliding ventilators.

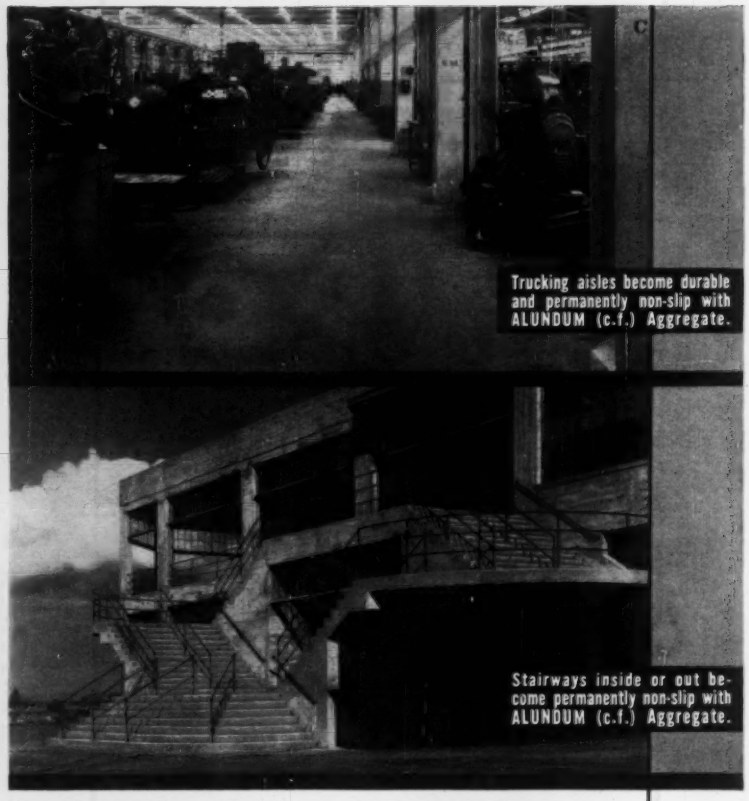
Inside the classrooms, every third



**weld-connected to columns. Double T planks serve as framing and floor in the two story classroom wings.**



**SPANDREL BEAMS** in classroom wings formed continuous members after top bar welds were completed. Entire frame above grade, except the gym girders, was plant cast and trucked to the site for erection.


Trucking aisles become durable and permanently non-slip with ALUNDUM (c.f.) Aggregate.
Stairways inside or out become permanently non-slip with ALUNDUM (c.f.) Aggregate.

**Combined Safety and Durability...**

**CEMENT FLOORS**

**STAIRS and RAMPS with**

**ALUNDUM (c.f.) Aggregate**

A non-slip surface, *wet or dry*, and exceptional resistance to wear — even with heavy trucking — that's what you get with cement floors, stairs, and ramps when ALUNDUM (C.F.) Aggregate is used in the surface in the correct proportion.

ALUNDUM (C.F.) Aggregate combines exceptional hardness with toughness. And the open structure of its vitreous ceramic bond enables it to become an integral part of the floor, greatly increasing the floor durability. At the same time it provides a surface that is non-slip even when wet with water, oil and other liquids.

**Norton Sidewalk Abrasives**

For certain inexpensive floor and ramp installations or when re-topping worn cenment areas, Norton sidewalk abrasive can be broadcast uniformly to effect a non-slip cement walking surface.

Available in two distinct types: ALUNDUM sidewalk abrasive (brownish-black aluminum oxide) and CRYSTOLON sidewalk abrasive (sparkling black silicon carbide).

*Catalog 1935ENR gives complete details about ALUNDUM Aggregate for terrazzo and cement — also in SWEETS.*

NORTON COMPANY
WORCESTER 6, MASS.

NORTON
NON-SLIP FLOORS

ALUNDUM AGGREGATE for Terrazzo and Cement • ALUNDUM STAIR and FLOOR TILE
ALUNDUM and CRYSTOLON Sidewalk Abrasives

## . . . Precast school frame

space between T plank stems was used for recessed lighting fixtures. White corrugated vinyl plastic sheets form continuous luminous panels beneath the light fixtures. Acoustical tile was attached directly to inserts cast in the bottom of the T plank stems.

An all air system heats and ventilates the building. Fan and coil units are located in crawl spaces of each wing. Sheet metal ducts carry air from these units to registers at the windowsills.

The decision to use precast concrete framing was made early in the planning stages, at a time when steel deliveries were slow. Preliminary estimates indicated it was competitive with structural steel or cast-in-place concrete. Precasting high-strength concrete under carefully controlled plant conditions, plus the use of prestressing where practical, kept framing sizes to a minimum. In addition, long span framing was possible wherever required.

The high school has 114,200 sq ft of floor area and encloses 1.7 million cu ft. The sum of all contracts, including auditorium seating, lockers and cabinet work was $2,069,800, averaging 18.10 per sq ft and $1.22 per cu ft.

Square foot cost was slightly less than New York State median. Cubic foot costs, however, are considerably below this median. The subcontract for all precast concrete was $239,100, or $2.09 per sq ft, for all floors and roof. The concrete sub-contractor has framed several other schools since, using the same type of design and construction methods, and has bid even lower on these projects.

Conclusions drawn from the project by the architects-engineers are:

• **In speed of erection, precast concrete is quite similar to structural steel.** Welded connections of matching steel plates did take considerable time, but this was offset by the saving resulting from use of the TT plank as both joists and deck for floors and roof.

• **Precast framing will be even more competitive in the future** as the volume of production increases, as manufacturers perfect their precasting operations and as contractors and erectors become more familiar with this type of construction.

• **Precast framing offers opportunity for featuring architecturally the structural frame of a building.** The exposed exterior columns of the Scotia School are an example.

Sargent-Webster-Crenshaw & Folley of Syracuse, N. Y. are the architects-engineers for the project with Sarkis Arkell as project architect. Lange-Finn Construction Co. of Albany, N. Y. is the general contractor. Winkrete Co., Syracuse, was the precast concrete subcontractor.

The Mathews barrel, containing all working parts of the hydrant, is readily removed for inspection or repair by simply unscrewing it from the elbow and withdrawing it through the protection case.

# I want you to see for yourself how the Mathews replaceable barrel is a real community asset

I can show you easily and quickly with this scale model. See? When a Mathews is broken by a skidding automobile, you can slip in a new barrel in a matter of minutes, *and without excavating.* It's a real safety feature for the community—allows only momentary interruption of neighborhood fire protection.

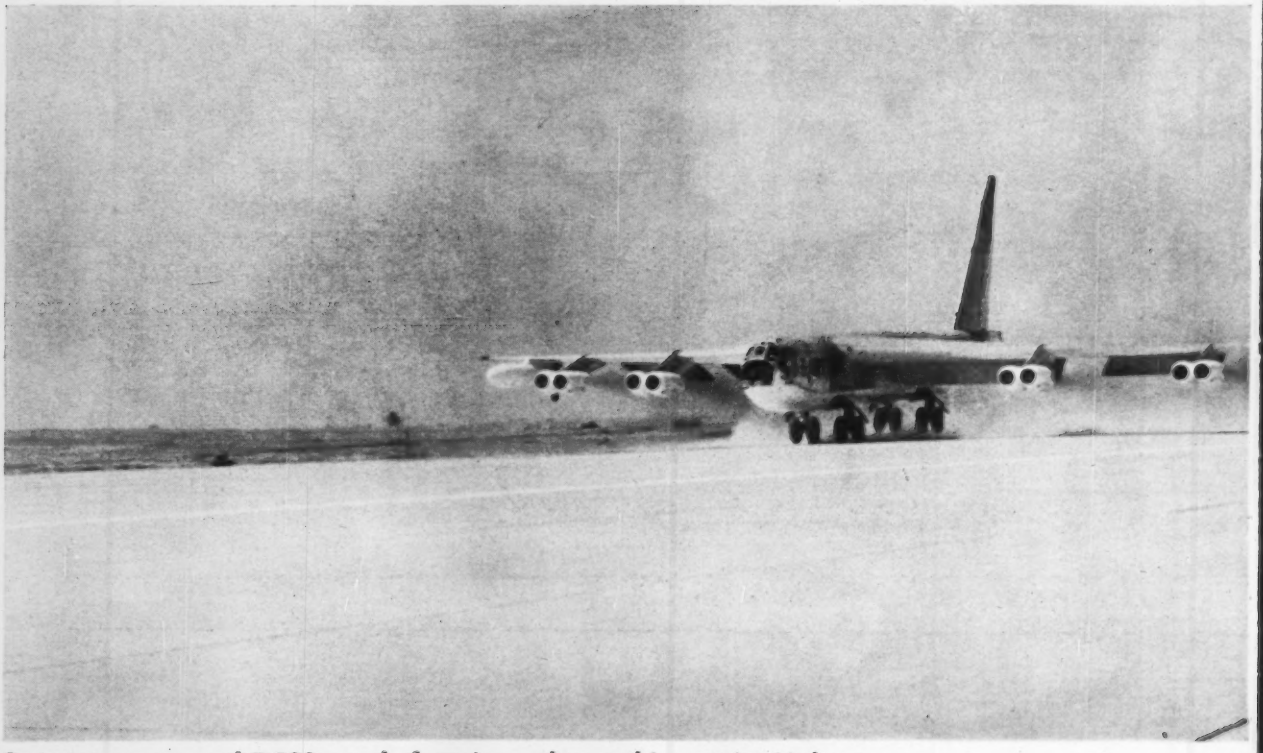
And these additional quality features help keep the Mathews at the head of the line:

- Compression-type valve opens against water pressure—a positive leakproof construction
- Operating thread cannot be bent
- Head revolves 360° just by loosening bolts
- Nozzle sections are changeable
- Nozzle levels can be raised or lowered without excavating
- Bell, mechanical-joint or flange-type connections
- O-Ring seal furnished when specified

MATHEWS HYDRANTS—by **R. D. WOOD COMPANY**

Public Ledger Building, Independence Square, Philadelphia 5, Pa.

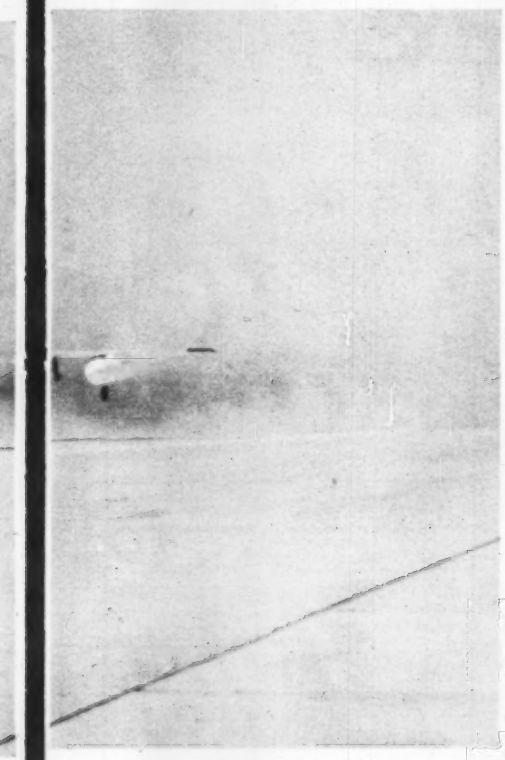
Manufacturers of "Sand-Spun" Pipe (centrifugally cast in sand molds) and R. D. Wood Gate Valves

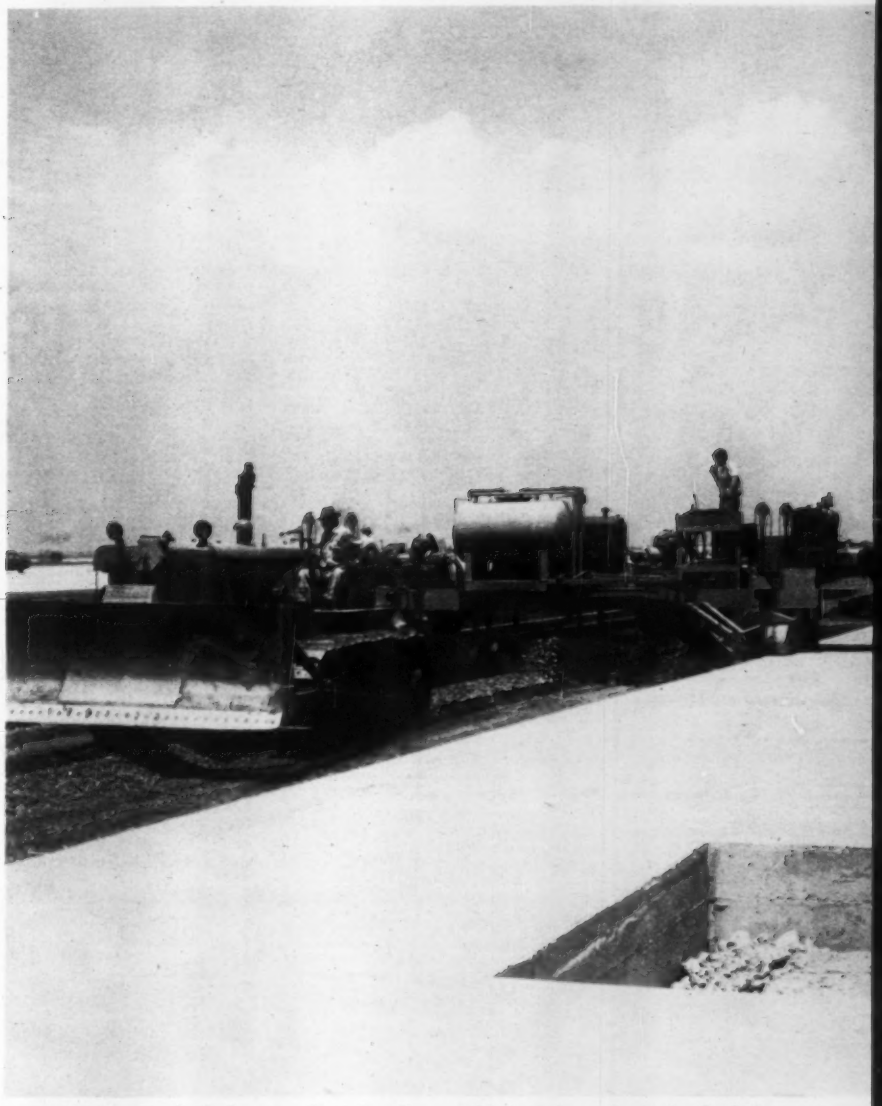


Contractor averaged 5,500 cu yd of paving a day at this new jet air base.

# Bomber Base Paved at Jet-Age

**FOUR PAVERS,** and sometimes five, were in operation at the same time to hit a daily rate close to that reached on large dam jobs. Maximum rate reached was 7,900 cu yd in a 14 hour day.





# Speed

One of the most remarkable airfield paving jobs in construction history has been completed at Beale Air Force Base in northern California. Concrete paving went in at an average rate of 5,500 cu yd a day with daily maximums reaching 7,900 cu yd, comparable to concreting rates on many large dam jobs.

These high paving rates were reached on a $10 million paving contract just accepted by the Corps of Engineers and turned over to the Air Force for use. Contractor was a joint venture of R. A. Westbrook, Inc., Morrison-Knudsen Company, Inc. and H. Earl Parker, Inc.

The paving is part of a $25 million program that will convert Beale from an army camp to the newest Strategic Air Force base in the country. Yet to be completed to make the base fully operational are such support facilities as a steel framed control tower, fueling installations and maintenance buildings. Existing barracks are being used, but a $9 million Capehart housing development providing 570 single family units will also be constructed.

Paving work included a 12,000 x 300 ft runway, a 12,000 x 75 ft main taxiway, four 1,250 x 75 ft cross taxiways, a 2,075 x 675 ft parking apron and two 1,200 x 350 ft warm-up aprons. Concrete thickness varied from 20 to 25 in.

**TRACTORS** were hooked up to the subgrading machines to keep them ahead of the fast-moving pavers. Subgraders took a 25 ft wide cut to a ¼ in. tolerance.

The main paving contract was awarded in the spring of 1957, but concreting was concentrated in two summer seasons of two or three months each.

Although earthwork quantities were large—4,900,000 cy yd of excavation and 4,250,000 cu yd of embankment—the 500,000 cy yd of concrete was the controlling production factor.

The fast paving rates were achieved by having lots of equipment on the job. Maximum rates were reached by working five highway pavers on shifts up to 14 hours. The aggregate plant had to be worked 24 hours daily to keep up with the paving. And as many as 24 trucks, each hauling 5 of the 1½-cu yd batches an average of 12,000 ft, served the pavers.

A tractor-hauled subgrader put into operation this year helped contractors achieve record rates. Riding on the steel concrete forms spaced 25 ft apart, this unit was able to take a finish cut to a ¼ in. tolerance. The machine traveled at an average rate of 50 fpm. A feature of the machine is its use of augers mounted at 45 deg angles at each side to bring excess subgrade material to a rubber conveyor belt. The augers can be turned off or reversed for low subgrade conditions.

Serving as project manager of the paving joint venture sponsored by B. A. Westbrook is Oliver Pope.

The project is administered by the Sacramento District, Corps of Engineers, Col. A. E. McCollam, district engineer. Field work was supervised for the Corps by J. D. Hitchcock, project engineer.

**AN ESTIMATED** 73% of the petroleum requirements on major St. Lawrence Seaway projects have been supplied by Texaco. Picture shows Bill Partisch (left), Texaco Lubrication Engineer, and Vic Pandolfi, Equipment Superintendent, discussing the Texaco Lube Plan, represented by the numbered barrels. In background, upstream side of Barnhart Island Power Dam and Robert E. Saunders Generating Station designed to generate 1,880,000 kilowatts. Construction of the 3,230-ft. wide, 167-ft. high concrete gravity dam involved excavation of more than 2,500,000 cu. yds. of earth and placing of approximately 2,000,000 cu. yds. of concrete. Dam is a joint project of the Power Authority of the State of New York and the Hydro-Electric Commission of Ontario. Contractors for both U. S. and Canadian sides used Texaco lubricants and fuels, the Canadian contractors being supplied through McColl-Frontenac Oil Co., Ltd., Montreal, a Texaco subsidiary.

# NO MORE THAN SIX SERVE ON

## Texaco Plan reduces needed lubes to no more than six

MASSENA, N. Y.—Barnhart Island Power Dam is the world's second largest hydro electric project (first: Grand Coulee).

A Texaco lubrication plan and the service that makes it work are credited by the contractor's Equipment Superintendent with playing a significant role in keeping the contractors' equipment in an operating condition.

"The Texaco Lube Plan has really helped," says Victor Pandolfi, Equipment Superintendent for Perini, Walsh, Morrison, Kiewit, Utah Companies, General Contractors. "We've used no more than six high quality lubricants *for the entire project* instead of 15 or 20. There's been less inventory. It's been simpler to service and protect the equipment. We've avoided mistakes in lubrication, and saved manhours and money."

### Most Contractors Use Plan

The Barnhart Island Power Dam is just one of the St. Lawrence Seaway projects on which the Texaco Simplified Lubrication Plan has been used. It's estimated that 73% of the petroleum requirements for the Seaway have been supplied by Texaco, and that most maintenance programs have included the Lube Plan.

The Plan has been endorsed for the following reasons: proper lubricants are recommended; less storage needed, reduced confusion and misapplication; lower handling and maintenance costs; less time lost by equipment; fewer lubricating errors; time and money saved.

### Developed on the Job, For the Job

The Texaco Simplified Lubrication Plan was developed

# THE ST. LAWRENCE POWER DAM

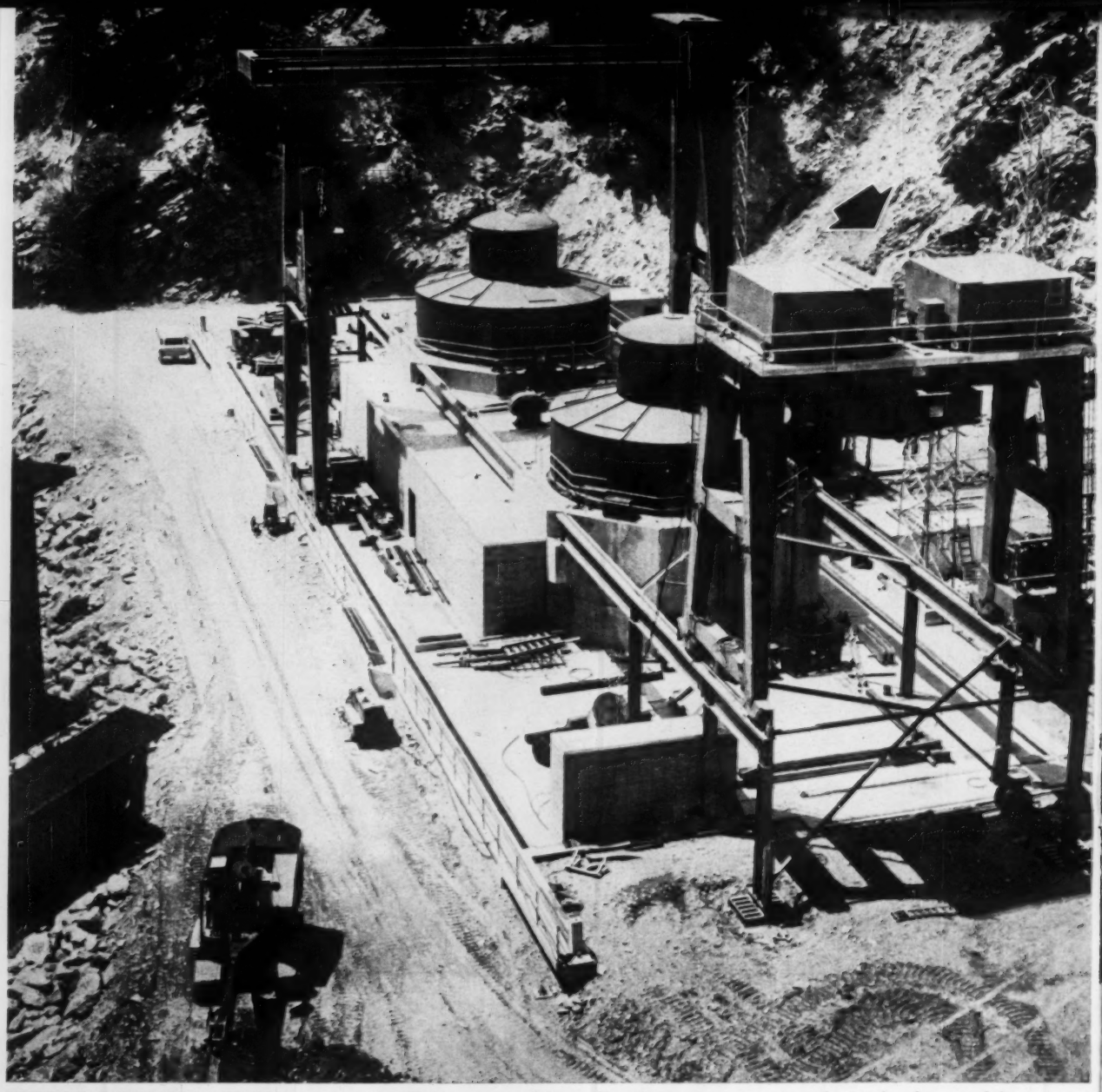
from on-the-job experience in all types of construction work. It's tailor-made for the work to be done. Lubricants may vary from job to job because each Plan is set up to meet the specific needs of a specific project. But regardless of the job, the basic fact remains that—*no more than six lubricants are needed to handle all major lubrication.*

Here are the six lubricants, illustrated above, used on the Barnhart Island project:
**(1)** For engines: *Texaco Ursa Oil Super Duty Special;* **(2)** for chassis, wheel bearing and general grease lubrication: *Texaco Marfak Multi-Purpose 2;* **(3)** for hydraulic units: *Texaco Regal Oil R&O;* **(4)** for transmissions and differentials: *Texaco Universal Gear Lubricant EP;* **(5)** for wire rope and open gears: *Texaco Crater;* **(6)** for enclosed reduction gears: *Texaco Gear Lube HD.*

Let a Texaco Lubrication Engineer work out a Simplified Lubrication Plan for your project. You'll save time, money and mistakes. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)



**PORTABLE 250 TON CRANE (arrow) will be erected by taller 25 ton permanent hoist for heavy lifts**

# Sharing a Crane Cuts Cost of Outdoor

Three new outdoor hydroelectric plants of Pacific Gas & Electric Co. are going to share a single 250 ton gantry crane. This departure from the usual practice of equipping each station with a permanent heavy crane is saving $225,000 in capital costs.

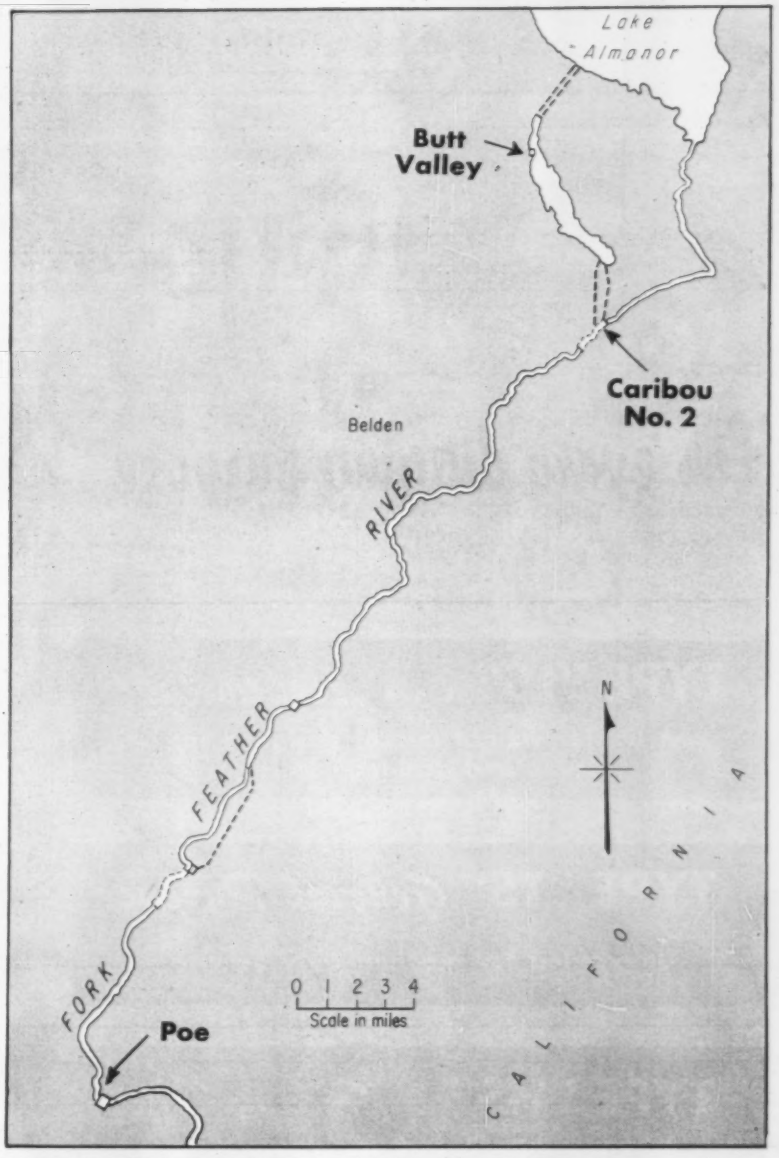
The sharing system won't involve frequent shifting of the portable crane. Once constructed, hydro plants require heavy lifts only for major repairs—maybe once in 20 years.

For indoor plants, there is little question that permanent big cranes are justified. Two bridge cranes can hoist the huge rotors and stators. But for outdoor plants, it takes a gantry crane —a much higher priced item. It was to save this extra cost that PG&E engineers looked for some other way of handling the infrequent heavy lifts.

The three new plants will cost $80 million and boost capacity of PG&E's Feather River system by 251,000 kw: 106,000 at Poe powerhouse, 109,000 at Caribou No. 2 and 36,000 at Butt Valley. Five other plants in the system generate 384,000 kw.

PG&E's new plants follow the current trend toward outdoor hydro stations, a pattern set earlier in steam plant design to save the cost of erecting and maintaining power plant buildings. However Poe power plant, first of the three new stations to be built, is only semi-outdoor. Its generators are set below design flood level and are protected from possible flood waters by heavy walls.

• **Rented crane at Poe**—A 250 ton portable crane was rented for construction




**THREE OUTDOOR PLANTS in the Feather River System**

**at any one of . . .**

# Power Plants

of the Poe plant. But PG&E engineers, reasoning that such a heavy temporary gantry might not be available for rent for future emergencies or construction, later called for bids on a portable 250 ton crane. Successful low bidder for detailed design and fabrication was Judson Pacific-Murphy Corp.

• **Little crane erects big one**—Span of the heavy crane can be varied from 24½ to 34 ft by connecting the legs at different points of the bridge. Eight wheels support the rig. Wheel base is 18 ft, over-all height, 40 ft above the rails and maximum hook height, 27 ft. It is small enough to be straddled and erected by permanent 25 ton gantry cranes at the three power plants.

The big gantry actually mounts two separate electric-motor-powered hoists. For maximum lift, both hoists work together on a 15 ft equalizing beam. Vertical hoist speed (full load) is 4 fpm.

Horizontal travel is powered by truck winches. The heavy crane can be adjusted a few inches transversely by screw jacks. The entire hoisting mechanism can be moved transversely in one-foot increments.

The crane breaks down into four trucks, two hoists, the equalizing beam and twelve structural pieces. It can be erected in four days. When not in use the crane will be stored at one of the plants or in a yard on the Feather River system. From there it can be readily moved to any one of the three new plants. It can be used also on future outdoor hydro plant construction—or on steam plant work.

Design of the Feather River power plants for PG&E is under the direction of Walter Dreyer, vice president and chief engineer. Civil engineering design is under the supervision of T. J. Corwin, assisted by Gordon V. Richards. Construction is supervised by H. W. Haberkorn, vice president in charge of general construction. John Woodward is superintendent and Elmer E. Hall resident engineer.

# 3 types

## for every digging purpose

**TYPE "LS" . . . *Lightweight***

A lighter weight bucket designed for levee and drainage work

**TYPE "TS" *General Purpose***

Unexcelled for Medium-Duty Service

**TYPE "HS" . . *Heavy Duty***

A heavy-duty bucket for moving shale, blasted rock and other hard formations

*All HENDRIX Buckets available without perforations*

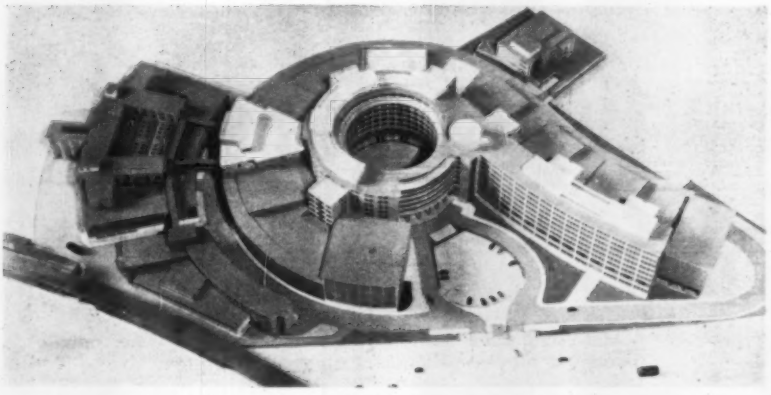
¼ to 40 Cubic Yards

**HENDRIX DRAGLINE BUCKETS**

HENDRIX MANUFACTURING CO., Inc.

MANSFIELD, LOUISIANA

# London's New TV Station Is . . .



# . . . A $25 Million Question Mark

The largest television center in Europe will be shaped like a giant question mark. The $25 million structure is now being built for the British Broadcasting Corporation on a 13-acre site on the western edge of London. It will be the largest of its type in Europe.

The design permits easy movement of people and scenery. Scenery will enter studios from the outer perimeter, performers and technicians from the inner courtyard.

Heart of the center is the circular main block, covering 3½ acres and ringed around a garden courtyard, 150 ft in diameter. This block will contain seven studios and control rooms, wardrobe and makeup departments, dressing rooms and administration offices. A 20 ft wide, 18 ft high runway for scenery and properties circles the outer periphery of the block. The scenery, service and restaurant blocks radiate from the outer edge of the runway. The main bock will be connected to the restaurant by a bridge and tunnel.

Since fire is a major hazard in television studios, extensive fire prevention and fire fighting systems have been integrated into the structure. Roofing throughout is asphalt on foamed concrete covered with asbestos tiles. The whole building is covered by a general alarm and sprinkler system. Other precautions include steel shutters, fire dampers, extra masonry thickness and emergency lighting on escape routes. Each main staircase will have floor hydrants with wet risers and hose pipes.

Work on the center started in 1951. The scenery and restaurant blocks have been completed. Plans for the "tail" extension have not yet been completed. Progress on the Center is determined by BBC's yearly income.

Graham Dawbarn is the architect. Higgs and Hill is the contractor.

## New Alpine Hydro Project To Be Finished By 1965

A new high Alpine hydroelectric project is planned by Tauernkraftwerke A.G. of Austria. Known as the "ZEMM" system, it will include two power plants—Rosshag and Mayerhofen—located in the Ziller River Valley. Parts of the development will be nearly 6,600 ft above sea level.

Capacity will total 360,000 kw. The nearby "Kaprun" power system (ENR Oct. 8, 1953, p. 225) has a capacity of 332,000 kw.

A storage basin would be created by the construction of a dam 417 ft high and 2,362 ft long. Trapping some 229 million cu yd of glacier water, the man-made lake will supply the Rosshag powerhouse 5 miles away. A smaller basin will feed water to the Mayerhofen unit.

Distinct disadvantage of the project is high electric energy yield in the summer and a relatively poor winter-time yield. For this reason pumped storage will be used at the Rosshag powerhouse.

The project includes a five-mile-long, unlined supply tunnel bored through gneis. The complete hydro project will be completed in seven years.

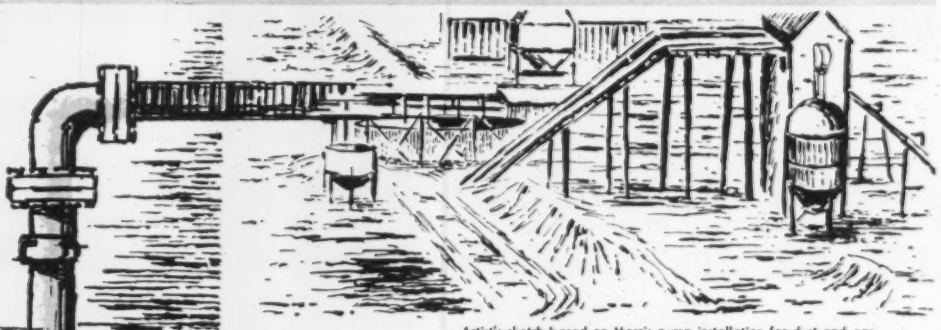
## . . . Briefs

• **TV goes underground**—The familiar television antenna will be missing from roof tops in a new 3,500 family housing development under construction on a 900 acre site near Toronto. The developer, United Lands Corp., Ltd., Toronto, decided instead to erect a central antenna to pick up all programs telecast to the Toronto area. Wires buried in trenches with electric and telephone lines will carry the signals into homes. Price of the house will include the first cost of the system; a $10 a year charge to users will cover maintenance.

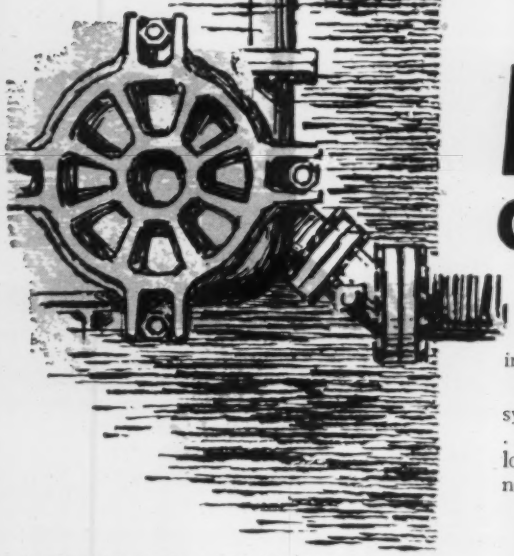
• **Thailand power**—The ELIN Co., Vienna, has been awarded a $5 million contract to build a 12,500 kw lignite-fired steam power plant to serve northern Thailand. Completion is expected in 1960.

• **Nuclear power**—General Electric Co. has contracted to furnish a 15,000 kw boiling water reactor for West Germany's first nuclear power station, and to design and build a 150,000 kw atomic power plant at Ponta Fiume on the Garigliano River near Naples for the Societa Elettro-Nucleare Nazionale of Italy.

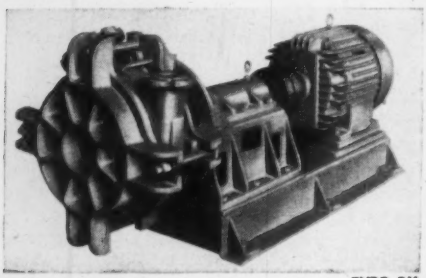
# Industry problem: Pumping away pollution



Artist's sketch based on Morris pump installation for dust and gas control at lime manufacturing concern. Reprints of story describing this installation are available on request.



Two Type R Morris pumps used in this pollution control system pump 150 gal/min of corrosive slurry—ranging from 12% to 30% solids—against total dynamic heads which vary from 35 to 100 feet.



TYPE RX

# MORRIS
## Centrifugal Pumps

More and more, government at all levels is calling upon industry to prevent pollution of streams and air.

Engineers coping with this difficult problem are turning to systems of recirculated water to capture undesirable materials . . . reduce them to slurry . . . deposit them in unobjectionable locations . . . and recycle the reclaimed water. Morris has pioneered in the development of such systems.

**CASE HISTORY:** Dust from the plant of a leading lime manufacturer lay on the roofs of a nearby town like snow. Wastes were lethal to a formerly abundant stream life. Two Morris pumps were installed to furnish spray for wet dust collectors newly connected to each kiln. Two more Morris pumps lift the resulting slurry 40 ft., through 700 ft. of pipe, to deposit it in a mine abandoned by the company. The success of this system prompted the company to extend it to serve new kilns soon to be built.

Where efficient pumping performance must be maintained – even under adverse conditions – it pays to know your pump, *in advance*. Applications engineering for difficult problems is a standard part of Morris service.

Talk with our engineers. They are qualified to recommend pumps of modern hydraulic design that you can depend on for years of uninterrupted service.

MORRIS
CENTRIFUGAL
PUMPS

**MORRIS MACHINE WORKS**
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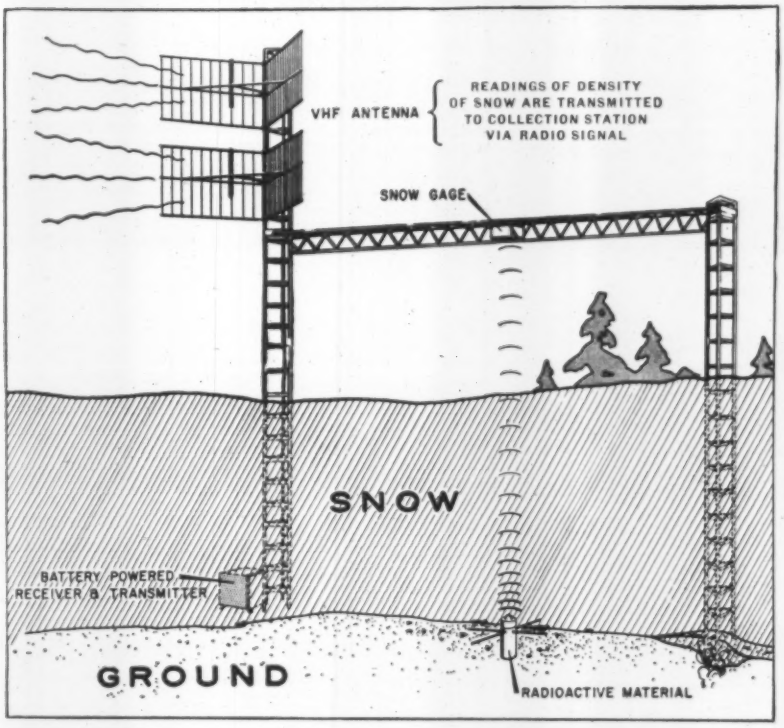



# Snow Pack Gaging Goes Modern

The Corps of Engineers will use radiation and radio telemetering methods to measure the water content of snow pack this winter in two remote mountain areas of California and Washington.

The systems will make it unnecessary to send men into the areas to make direct measurements.

Snow pack data will be taken at three gage sites and transmitted through two relay stations to a base station out of the deep snow region. Maximum distance between any two units is 70 miles.

Equipment at each gage site includes radiation source, radiation detector, radio transmitter, receiver, battery and control unit.

The source, radioactive cobalt, is placed just below ground surface and the detector 15 ft above. Radiation emitted by the cobalt is absorbed by the snow in proportion to water content of the pack, not its depth. The detector reading is then radioed to the base station.

Use of transistor components with low power-needs permits a radio signal from the base station to trigger data transmissions.

An earlier telemetering system was found impractical because of the large power requirements and the need for mechanical clocks to set off transmission of data.

Electronic equipment for the system was developed by the Sierra Electronic Corp., Menlo Park, Calif.

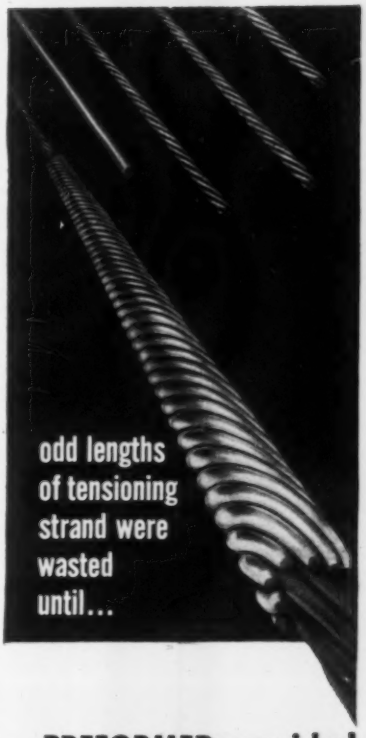
## Lake Chlorination Extends Bathing Season at Beach

Chlorination of heavily polluted lake waters enabled Berea, Ohio, to keep its public beach on Wallace Lake open the whole summer.

In contrast to conditions in 1957, when bacteria counts reaching 6,000 caused the town to close down the beach during August, the 1958 disinfection program kept the counts to zero in the beach bathing area.

Water was drawn from the polluted lake through a suction pipe extending 60 ft offshore. Then it was chlorinated and released through perforated pipe running parallel to the beach. Chlorine was introduced at the rate of 90 lb in 14 hours to treat a bathing area 450 by 200 ft.

The chlorination system was designed by O. Dale Graham, deputy park director of the Cleveland Metropolitan Park System. He hopes to adapt the treatment to other park pools next summer to allow season-long bathing in sewage-polluted waters.

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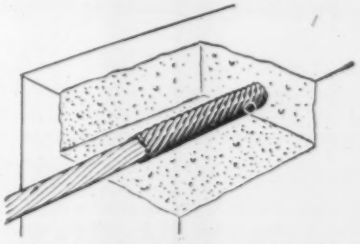

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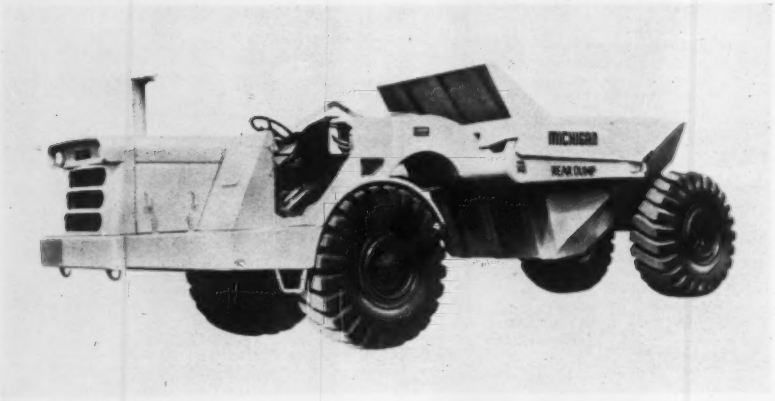



## Rear Dump Added To "Michigan" Line

The "Michigan" line of construction equipment now includes a rear dump tractor wagon designed to haul rock and other material that cannot be self-loaded. The company's new model 110 tractor wagon has a heaped capacity of 12 cu yd, a struck capacity of 8.3 cu yd and is capable of hauling a 13 ton load.

A loading height of 7½ ft simplifies the loading of the machine by almost any power shovel, conveyor or medium-size tractor shovel.

Among the features stressed by the manufacturer are a completely shrouded hydraulic system for protection against spilled rock and a double bottomed dump body which has replaceable inner plates.

The tractor on the Model 110 rear dump is identical to and interchangeable with the tractor on the Michigan model 110 tractor scraper. It has a 4 speed power-shift transmission, a torque converter, planetary wheel drive axle and dual range power steering. Top travel speed is 31.4 mph. Construction Machinery Division, Clark Equipment Company, Pipestone Road, Benton Harbor, Mich.

## High Bucket Tip-Back At Low Ground Clearance

A four wheel drive, 1¾ yd front end loader, the TL-16 Tractoloader has a maximum lifting capacity of 14,000 lb and a breakout force of up to 18,400 lb, the manufacturer reports.

For loading, the bucket tips back 40 deg at ground level. For stability while traveling, it can be tipped back to 45 deg when 14 in. off the ground.

Maximum dumping clearance under the hinge pin is 11 ft 6 in. Dumping clearance under the bucket cutting edge is 9 ft. 1 in.

Power is provided by a 101 hp gasoline engine or a 97 hp diesel. The machine has a 3.5 to 1 torque converter and a three speed full power shift transmission. Top travel speed forward or reverse is 27 mph.

The TL-16 has rear wheel power steering and four wheel power brakes. Other features include a bucket level indicator, rear-axle disconnect and a fully-enclosed hydraulic system. Tractomotive Corp., Deerfield, Ill.

## Double Cube Blocks Are No Problem for Fork Lift

Gerlinger S series fork lift truck provides efficient handling of double cube building blocks.

Twelve forks—48 in. long, are mounted on a 96 in. wide fork carriage. The carriage moves sideways for quick alignment in loading and unloading the blocks. It mounts on either the S or W series lift trucks with a capacity of 10,000 to 22,000 lb. Towmotor Corp., 1226 East 152 St., Cleveland, Ohio.

## Six-Passenger Truck Cabs For Medium, Heavy Rigs

Six-passenger Travel-Crew truck cabs have been introduced for medium and heavy duty International trucks. The cab seats three in the front seat and three in a back seat.

The new cabs are designed for factory installation on A and AC-160 models (16,000-19,000 lb GVW), A and AC-180 (19,000-22,000 lb) and four wheel drive models in these two series. They are also available for ACF-180 six wheel models in both rear-axle and all-wheel drive version (30,000-33,000 lb).

The cab increases bumper-to-back-of-cab dimensions on all models by only 36 in. while it sometimes eliminates supplementary personnel-carrying vehicles. International Harvester Co., 180 N. Michigan Ave., Chicago, 1, Ill.

## Lift Goes Ahead, Backs Up, Stops, With the Same Pedal

Towmostatic drive on lift trucks enables the operator to control forward and reverse movements with a treadle-type pedal operated by the left foot. Toe pressure is for forward and heel is for reverse.

The manufacturer says that with a little practice, even normal braking can be done by the drive pedal, making it unnecessary for the driver to switch back and forth between brake and accelerator. Towmotor Corp., 1226 E. 152nd St., Cleveland 10, Ohio.

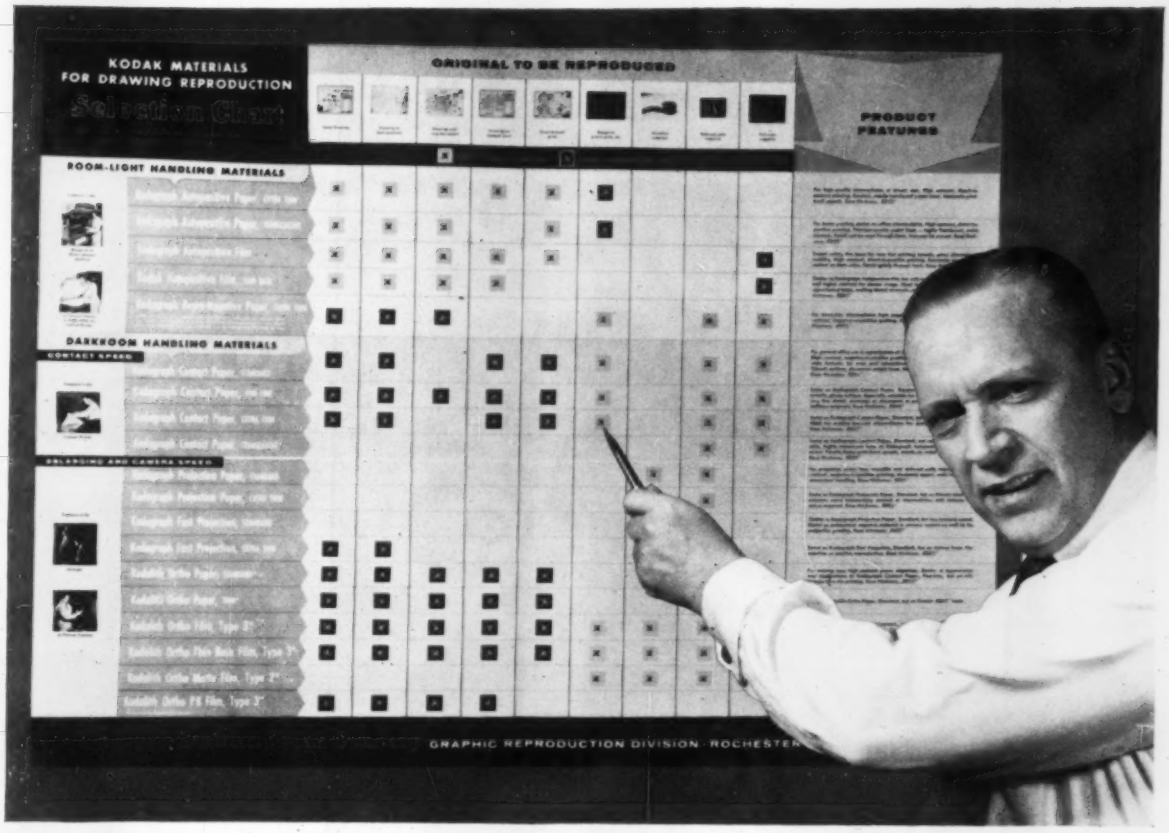
## Easy Crawler Drive Setting Featured in 1½ Yard Shovel

One of the completely new features of the Model 2300 shovel is easy hydraulic jack adjustment of the crawler drive, states the manufacturer. The 1½ yd shovel converts to a 1½ yd clamshell or trench hoe, 1½-2½ yd dragline or 35 ton crane.

The king pin, forged and heat treated, is said to take the strains of the toughest digging. A flat-designed 62 in. roller path allows more precise adjustment between house rollers and king pin to minimize strain on the pin, it is claimed.

Simple design is stressed by having only 11 gears in the upper deck machinery and there is a central lubricating point system. Torque converter, air controls and self-removing counterweight are among optional features offered. Manitowoc Engineering Corp., Manitowoc, Wis.

(*New Products continued page 49*)




# Quick guide to better printmaking

**FREE**... this handy wall chart lets you put your finger right on the Kodagraph Reproduction Material which will give desired results in reproducing all types of drawings or other originals in all types of printmaking equipment.

Whether you do your own printmaking or order from a local blueprinter, you will find this chart a big help in the drafting room.

It tells you, for example, which Kodagraph Materials give you sharp, clean intermediate prints of old soiled drawings; which ones are best for reproducing blueprints, microfilm negatives, drawings with extremely fine detail.

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## "Penn-Can Highway" contractor slashes downtime on 300

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S. J. Groves is doing all the grade separations, approaches and landscaping for 16 miles of highway and 15 miles of access roads on the "Penn-Can Highway," part of the Federal Highway System in upper New York State. Photo above shows work on the Oswego Boulevard section in Syracuse where 250 buildings were removed to form a connecting link to the highway.

Keeping all the equipment running is the responsibility of Wilson Fosdick, Maintenance Superintendent, N.Y. District, and Clarence Van Orden, Shop Foreman. "Good fuel and oil keep engines clean," says Mr. Van Orden, "and that eliminates 75% of engine maintenance problems and emergency calls to get stalled equipment back on the job."

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Jack Conway, left, Grading Superintendent of S. J. Groves, discusses equipment performance with Gulf representative, H. A. Martineau.

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Bethlehem Form Stakes, of 1-in. diameter and 24 in. long, come in bundles of ten, wire strapped for convenience in handling. They can also be supplied in other sizes to meet special needs. For full information, call the nearest Bethlehem sales office.

Made of high-carbon, high-strength steel, these stakes are built to take heavy battering.

Bethlehem Form Stakes speed anchoring jobs because they drive fast. They are economical because they can be pulled out and re-used many times.

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BETHLEHEM STEEL

## The Bucket Levels Itself On This Tractor Shovel

The Henry 900 tractor shovel, built for the Fordson Major tractor, features a self-leveling bucket and bucket position indicator. It has a breakaway capacity of 5,000 lb and a lifting capacity of 3,000 lb to a full height of 9 ft.

Maximum tilt of the bucket is 25 deg and maximum dump angle is 50 deg. With the bucket at a 40 deg dump angle at 9 ft, the tractor shovel has a reach of 33 in.

Lift is powered by 30 in. stroke cylinders and the bucket is operated by 22 in. stroke cylinders. Two sizes are available: a 60 in. bucket with a capacity of ¾ yd heaped or ⅝ yd struck and a 66 in. bucket with a capacity of ⅞ yd heaped and ¾ yd struck. The tractor shovel has replaceable bronze bushings and 1½ in. steel pins throughout. HENRY MANUFACTURING CO., INC., TOPEKA, KAN.

## . . . Briefs

• **Steel scaffold**—The "Riteway" is a wheeled steel scaffold assembled from only five components for easy job handling. BUILDING SERVICE CO., 4923 18TH AVE., MINNEAPOLIS 17, MINN.

• **Post puller**—Used with a chain wrap and jack, the Simplex Jack Hitch was developed to ease removal of either steel-angle or wood posts. TEMPLETON, KENLY & CO., GARDNER ROAD, BROADVIEW, ILL.

• **Quick release valve**—Venting air circuitry systems with precise control is possible with a new series of aluminum release valves. Because of the sensitivity of the valve, pressures can be vented in increments of approximately 6 psi. INDUSTRIAL PRODUCTS DIV., WESTINGHOUSE AIR BRAKE CO., WILMERDING, PA.

• **Heavy duty welder**—A new 600-amp heavy duty welder is available with either gasoline or Deisel-engine power source. A paralleling attachment is also offered with the line to facilitate combining two units for 1200-amp capacity. HOBART BROTHERS CO., TROY, OHIO.

• **Barrel cuts undisturbed samples**—The new Acker Denison Core Barrel, built on a revised design of the original barrel, is now available. The manufacturer says it will cut a soil sample undisturbed by pressure since no hard driving of the barrel is necessary. Bulletin 1100. ACKER DRILL CO., INC., SCRANTON, PA.

• **Concrete seal**—A new type of concrete seal may be applied to freshly laid concrete floors as soon as the surface is dry. The manufacturer says floors treated with Tremseal-20, a synthetic elastomer, are hard in three hours and will bear heavy traffic in 24 hours. THE TREMCO MANUFACTURING CO., 8701 KINSMAN ROAD, CLEVELAND, OHIO.

• **Concrete bond**—Masonweld Concrete Adhesive for bonding concrete, is recommended by the maker for use in restoration and repair of cracked and spalled concrete buildings, tanks, silos, floors and roads. AMERICAN METASEAL CORP., 607 65TH ST., WEST NEW YORK, N. J.

• **Concrete resurfacing**—"Certified Superset Styrroid SS-235" reportedly has oil and acid resistance, is easy to apply and is available in attractive colors as well. UNITED LABORATORIES, INC., 16801 EUCLID AVE., CLEVELAND 12, OHIO.

• **Form compound** — A reportedly smooth parting, non-caking form lubricant for prestressed concrete beams and pipe permits quick stripping of concrete members, and leaves concrete with a glossy surface, according to the manufacturer. SHELL OIL CO., 50 W. 50TH ST., NEW YORK 20, N. Y.

• **Fastener holders**—Four new special purpose fastener holders and drive rods for Shure-Set hammers are available. They cover telephone, temperature control, plumbing and deep-set heating tube installations. OLIN MATHIESON CHEMICAL CORP., 460 PARK AVE., NEW YORK 22, N. Y.

• **Chain saws**—More power, lighter weight, and greater ease in handling characterize the new line of six gas engine power chain saws, says the maker of "Mac" equipment. MCCULLOCH CORP., 6101 W. CENTURY BLVD., LOS ANGELES 45, CALIF.

• **Drill presses**—Designed to accommodate all makes and models of portable air and electric drills equipped with dead handle sockets, three Thor drill presses—the 2MAG, 3MAG and 4MAG—feature swivel columns with locks. THOR POWER TOOL CO., 175 N. STATE ST., AURORA, ILL.

• **Form brace**—An adjustable steel form brace is available in lengths of 6 and 10 ft, with longer sections available on special order. It is formed from 1⅝ in. dia. steel. SYMONS & CLAMP MFG. CO., 4249 WEST DIVERSEY AVE., CHICAGO 39, ILL.

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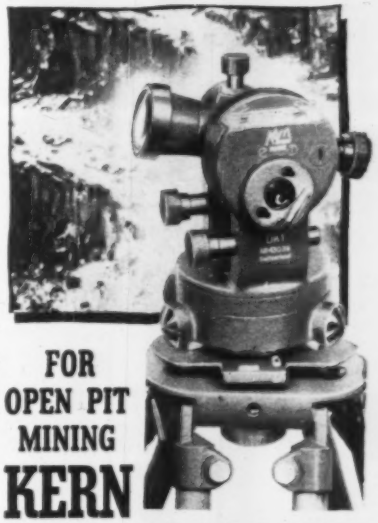

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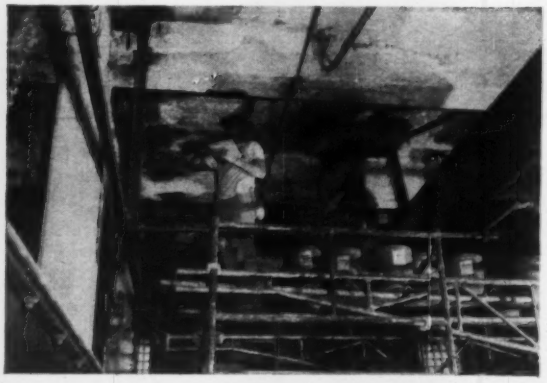

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## Publications

**Marine mounts**—Catalog describes Manitowoc marine mounts for cranes of 20 to 100 tons and excavators with one to six yd capacities. The units suit any type of mounting on rigs used in offshore drilling, dredging, ship and dockside cargo handling, canal excavation, and marine construction. 6 pages. Manitowoc Engineering Corp., Manitowoc, Wis.

**Concrete tanks**—Brief history of prestressed tanks in U. S. and abroad with a description of several built recently. Included are details on design, construction, cost estimating and maintenance. Bulletin T-22. Preload Co., Inc., 211 E. 37 St., New York 16, N. Y.

**Framing anchors**—Design data on the use of Trip-I-Grip framing anchors for a variety of secondary connections with 2 in. or larger lumber. 8 page booklet. Timber Engineering Co., 1319 18th St., N. W., Washington 6, D. C.

**Plastic coatings**—Properties of epocast coatings as used for sealants, adhesives and pastes. 4 page bulletin. Furane Plastics, Inc., 4516 Brazil St., Los Angeles 39, Calif.

**Roof systems**—Specification sheets and drawings for concrete roof insulation and roof deck. 22 pages. Zonolite Co., 135 S. LaSalle St., Chicago 3, Ill.

**Steel curtain walls**—Installation and specification details for Ceco-engineered curtain walls of aluminum and steel. Brochure 1069B, 24 pages. Ceco Steel Products Corp., 5601 W. 26th St., Chicago 50 Ill.

**Laminated wood**—Shows application of glued-laminated wood arches, beams and trusses to the construction of schools and churches. Two 8 page brochures. Rilco Laminated Products, Inc., W-801, First National Bank Building, St. Paul 1, Minn.

**Lightweight aggregate concrete**—Illustrates the uses of lightweight aggregate concrete on 13 construction projects with photographs and job stories. 20 page brochure. The Master Builders Co., 7016 Euclid Ave., Cleveland 3, Ohio.

**Windows, screens, doors**—Two catalogs: No. 1040-F, 28 pages, contains data for selecting hollow metal doors, frames; No. 1049-D describes aluminum and steel windows and screens. Ceco Steel Products Corp., 5601 W. 26th St., Chicago 50, Ill.

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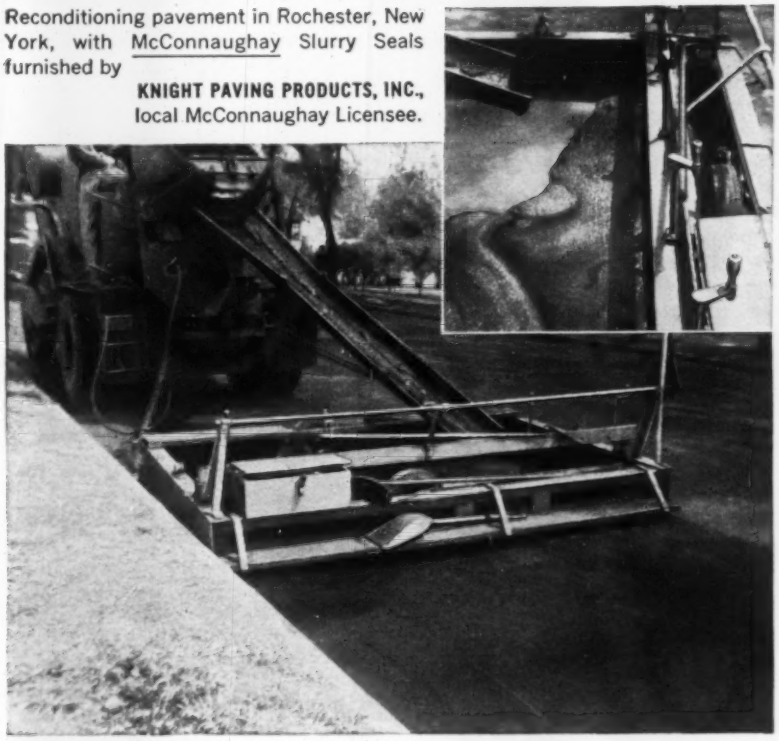

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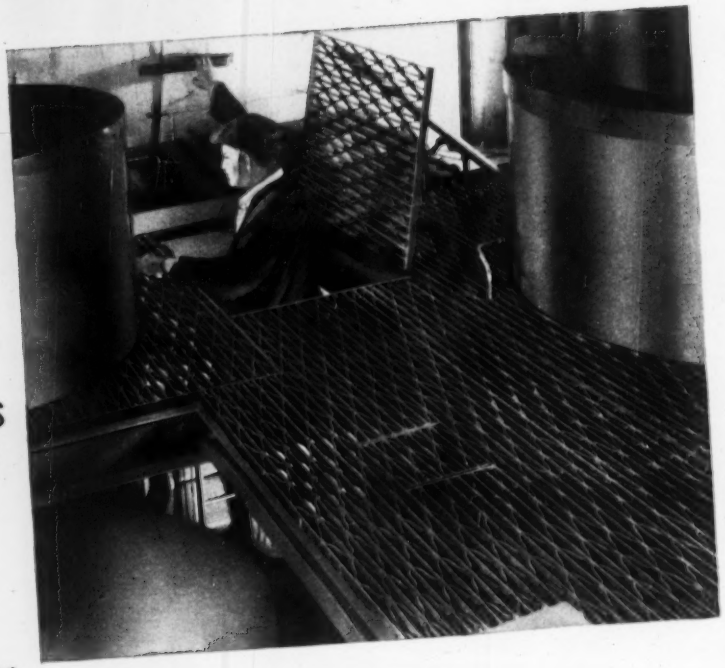

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# Industry Men Campaigning in 9 States

Many construction men are among the hopeful candidates crowding the campaign trail this fall. Most of them are trying for seats in their state legislatures but some have their sights trained on the U. S. House of Representatives.

**Industry traffic is bumper-to-bumper in Pennsylvania,** where two engineers and twelve contractors are among the candidates for office.

Rep. Walter R. Mumma (R), founder of the Pennsylvania Supply Co., is up for reelection. Long a residential housing contractor, Rep. Mumma has in recent years branched into roadbuilding through affiliated companies. The business is managed by his son Robert while the elder Mumma is in Washington. Civil engineer Thomas C. Anthony, Jr., of Reading, is also seeking one of Pennsylvania's seats in the House. A Republican, Mr. Anthony is running in the normally Democratic 14th District.

Aspiring to spots in the Keystone State's capitol are eleven contractors and one engineer. Incumbent State Representative Marvin V. Keller, Newtown, a building contractor, is trying to move up to the state Senate on the Republican ticket. His chances of making it in normally Republican Bucks County are counted better than those of fellow-Republican Roy W. Smith, a civil engineer and president of the Capitol Engineering Corp., Dillsburg, who is seeking the Senate seat in a district that has gone Democratic in the past.

Ten candidates for election or reelection to the Pennsylvania House of Representatives list their occupations as contractor. They are: Rep. Charles D. Heavey, (D.), a demolition contractor for 35 years; Rep. Albert E. Strausser,(R.), partner of Strausser Construction Co., Berwick; Rep. Roy W. Parry, (R.), owner of Parry & Co., Luzerne; Theodore S. Green, (R.); Ralph Marino, (D.); Rep. Samuel Mahan, (R.); Rayford A. Robel, (R); James A. O'Donnell, (D.); Gus P. Verona, (D.); and Archie H. Sweeney, (R.).

• **In Ohio,** Elmer S. Barrett, the immediate past president of the Ohio Society of Professional Engineers, is a Republican candidate for Congress. The Chillicothe consulting engineer has seen public service as Ross County Surveyor and as a division highway engineer.

• **In California,** three contractors are running for state offices. Frank D. Corbett, Sacramento general contractor, aspires to the state Senate while Samuel R. Geddes, Napa, and Montivel A. Burke, Alhambra, are candidates for the Assembly. Mr. Geddes won both the Republican and Democratic nominations in primaries last June and is therefore assured of his seat. Mr. Burke, a Republican, has opposition.

• **In Idaho,** two contractors are candidates for the state legislature. Both are Republicans and both have been state solons before. Ralph H. Wickberg, Kellog, is running for the Senate from Shoshone County. He had been a state Representative in the 1955 legislature. Orson H. Grimmett, Paris, is a House of Representatives hopeful from Bear Lake County. He occupied a House seat in 1957.

• **In Montana,** five contractors and a civil engineer are aiming at the state legislature. Sen. Earl Moritz, (R.), and Sen. Frank D. Reardon, both of Butte, are campaigning for re-election to the upper house. Both are contractors. Representatives Mike Loughran, (R.), a Butte civil engineer, Charles Cerovski, (D.), Lewiston contractor and John Karlberg, (D.), Missoula contractor, are trying to return to the lower house.

• **In North Dakota,** Rep. Clifford L. Lindberg, head of Lindberg Builders, Inc., Jamestown, is the Republican candidate to succeed himself in Washington. Only one contractor, Harvey W. Nelson, is braving a state law that limits the amount of business a member of the legislature can do with the state, or any political subdivision, to $10,000 in a calendar year. Mr. Nelson is the Democratic candidate for the state Senate from Walsh County.

• **In Illinois,** Charles K. Willet, a Dixon consulting engineer, is seeking his sixth term as state Representative. He is a Republican. Ben S. Rhodes, (R.), Normal, is after his 11th term as state Representative. He is a retired contractor.

• **In Oregon,** William D. Shannon, Seattle consulting engineer, is seeking reelection to the state Senate from the 43rd District, which he has represented for 12 years.

• **In Arkansas,** three contractors in the state Senate will go into the election unopposed. They are Senators Artie Gregory, North Little Rock, Harry Screeton, Hazen, and Ellis Fagan, Little Rock. Rep. Winford Logan, a Heber Springs contractor and building materials supplier, was defeated Aug. 12 in the runoff primary.

• **In Maine,** three contractors were elected to the legislature on Sept. 8. They are veteran Senate minority leader Jean Charles Coucher, (D.), Lewiston; Rep. Carlton Day Reed, (D.), Woolwich; and Philip Dunn, (R.), Poland. Rep. Reed is in partnership with his father in the bridge contracting firm of Reed & Reed, which does work for the State Highway Commission.

## Reidy Picked to Revamp NYC Building Department

Peter J. Reidy, president of Purdy & Henderson Associates, New York City, has been appointed Commissioner of the New York City Department of Buildings.

Mr. Reidy's biggest job will be reorganizing the department's management and inspection activities. They have been under fire as graft ridden for some time.

A member of the Mayor's Committee on Practices and Procedures in the Dept. of Buildings, Mr. Reidy is also president of the New York Association of Consulting Engineers.

## Careers

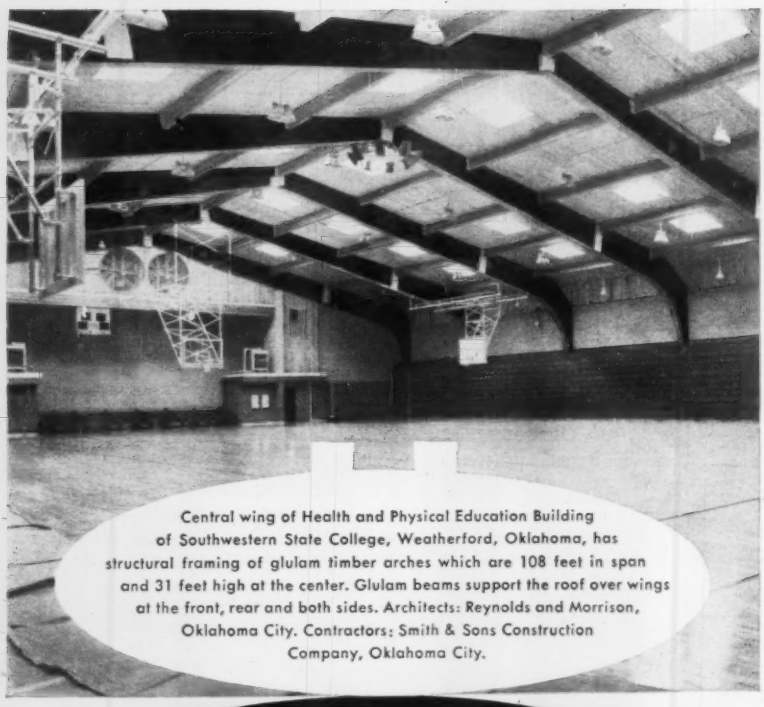
### Honors

**Henry C. Beckman,** who retired this year from the Water Resources Division. U. S. Geological Survey, has received the Interior Department's Distinguished Service Award for outstanding administration of water resources investigations.

### Business

**Harold Blauvelt** and **Francis Brown,** consulting engineers, have dissolved their New York partnership of Brown & Blauvelt. Mr. Brown has founded a new firm, Brown Engineers and Brown Engineers International, that will do both domestic and overseas work. Mr. Blauvelt heads a new company, Blauvelt Engineering Co., that will handle heavy civil engineering projects, mostly in the U. S.

**James Kesler** has become chief structural engineer of Daniel, Mann, Johnson and Mendenhall, architects and engineers, Los Angeles, Calif. He had been a structural project engineer for the company since 1950.



Central wing of Health and Physical Education Building of Southwestern State College, Weatherford, Oklahoma, has structural framing of glulam timber arches which are 108 feet in span and 31 feet high at the center. Glulam beams support the roof over wings at the front, rear and both sides. Architects: Reynolds and Morrison, Oklahoma City. Contractors: Smith & Sons Construction Company, Oklahoma City.

# Building Budgets Go Farther

## with Framing of Engineered Timber

The Health and Physical Education Building at Southwestern State College was originally designed for other framing. When it was first bid the lowest figure was considerably over the amount available. Redesigned for structural framing of glulam timber arches and beams, new bids were taken, and the figures were well within the budget. Area and quality of construction remain unchanged.

The resulting building, school authorities feel, is "as good a building structurally, and a more beautiful gymnasium on the interior" than as originally designed.

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# Obituaries

**George Hauber,** 60, senior estimating engineer with Ebasco Services, New York City industrial engineers. A graduate of Massachusetts Institute of Technology, he had been with Ebasco for 25 years.

**P. C. Van Sant,** 66, in Wilmington, Del. He was founder and president of the Van Sant Brothers Co., contractors, and past president of the Delaware Chapter of the Associated General Contractors of America.

**Eric E. Wells,** civil engineer and president of Sarco Canada Ltd. and White-Rodgers Ltd., Toronto, Ont.

**John A. MacGillivray,** 69, engineer with the Ontario Water Resources Commission, Toronto. He started his career as a field engineer with the Greater Winnipeg Sanitary District and joined the Ontario Hydro-Electric Power Commission 10 years ago.

**George D. Shaeffer,** 62, in Jenkintown, Pa. He was a retired engineering consultant and a former vice-president of Garwood Industries, Detroit.

**George F. Bernauer,** 46, district sanitary engineer for the Wisconsin Board of Health. He was chairman of the Sewage Works Standards Committee of the Great Lakes–Upper Mississippi River Board of Public Health Engineers. A graduate of Marquette University, he was a consultant on sewage works design and operation.

**Walton Everman,** 81, architect, in Sulphur Springs, Ark.

**Thorkild Avnsoe,** 74, director of the Lone Star Cement Corp., in Port Chester, N. Y. He spent 47 years with the corporation and served as executive vice president and vice chairman of the board of directors. He was responsible for many developments in portland cement manufacture and for establishing standards of employee safety and plant cleanliness. Mr. Avnsoe was a civil engineering graduate of the University of Copenhagen, Denmark.

**John B. Roberts,** 79, in Princess Anne, Md. He was a founder of the Roberts Paving Co. in 1923, a firm that has done highway work throughout the East and particularly in the Middle Atlantic states. Mr. Roberts also helped to found the Southern Materials Corp. of Virginia, concrete suppliers, and the Southern Lightweight Aggregate Corp. of Richmond.

# Co-op Education Seen Paying Off

Cooperative educational programs, under which students alternately work and study in their chosen fields, are providing industry with happier and more effective personnel, says a new book written by a committee of engineers and educators.

"Hand in Hand," published this month by Gordon & Company (Medford 56, Mass., $10.00), commemorates the 50th anniversary of industry-aided cooperative education in the U. S. Alfred L. Dowden, electrical engineer with Liberty Mutual Insurance Company, Boston, served as editor and chairman of the committee of authors.

The book states: "Probably the strongest single testimonial of the cooperative program is industry's observation that they experience the lowest employment turnover from their employees who have graduated from such programs. . . .

"The cooperative graduate who has spent 16 months in industry, divided in four, four-month assignments, in as many geographical areas, has an unusual opportunity to form factual opinions regarding his choice of a 'permanent' industrial assignment." His chances of being happy with his choice, the book says, are far greater than those of a classmate who has not worked close to his chosen profession.

The authors ask the question: "To what avail is a sound fundamental training unless the graduate finds an outlet for his abilities where he will be happy?

"Men who are happy at their work are less likely to move to another job. Finding one's place in life is a serious matter but sometimes left to pure chance—a factor of luck and sometimes pure accident."

It is claimed that the scientifically minded student is probably better oriented to the general area of his chosen profession than a student in any other single group.

But the book adds: "Even here, a small percentage of students who enter cooperative programs in areas of their professed interest find that they are unfitted for, or dislike, the very profession they have chosen. The early discovery of this fact is of great value to the student who then reappraises his interests and in most cases changes his college courses to lead him to areas of greater interest. . . .

"He will observe areas of employment in research, development, production, or sales, which may have greater personal appeal as a career objective. . . . On return to school he may modify his electives and humanities or otherwise reorient his academic program to better prepare himself for his new objectives—objectives which have their roots in factual information rather than conjecture. In essence the salient advantages to the student are found in the words (1) orientation, (2) motivation (3) experience."

The "happy orientation" of the cooperative student is fostered by the fact that "he has had unusual opportunity to work with groups of people and learn at first hand those personal qualities most acceptable in our modern industrial organization," the authors believe. "Rough corners of a 'sheltered personality' are removed when the corners are still soft. He observes the desirable characteristics and rewards of cooperative effort and the importance of [such characteristics as] dependability, tact and personal integrity.

"These lessons, when learned, make one most acceptable and congenial in a team effort and have their role in the happiness of the permanent employee. When combined with a technical environment of his choice, these qualities, together, lead to the maximum opportunity for growth and advancement, an essential ingredient of the happy employee. . . ."

The authors say, "The time has passed when cooperative education is viewed merely as a means of financially aiding a young man through his college education. Industry has a vital responsibility in upgrading the quality of cooperative education."

Since World War II, it is noted the number of schools participating in cooperative education has more than doubled and the calibre of the programs has "greatly improved." At the present time there are 14 colleges offering civil engineering courses on a cooperative plan.

The 368 page publication traces the development of selective cooperative educational programs, with a special message on opportunities for high school students. It explains industry's evaluation of the programs and analyzes "today's challenge in engineering education."

The book also includes 402 biographical sketches of men who have added special distinction to the history of cooperative educational programs by their participation in them.

(Books continued page 56)

WELDED or RIVETED
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★ Boiler Casings
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★ Flues and Ducts
★ Condenser Shells
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★ Hoppers and Bunkers
★ Tanks and Vats
★ Pressure Vessels
★ Wind Tunnels
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★ Rigid Frames
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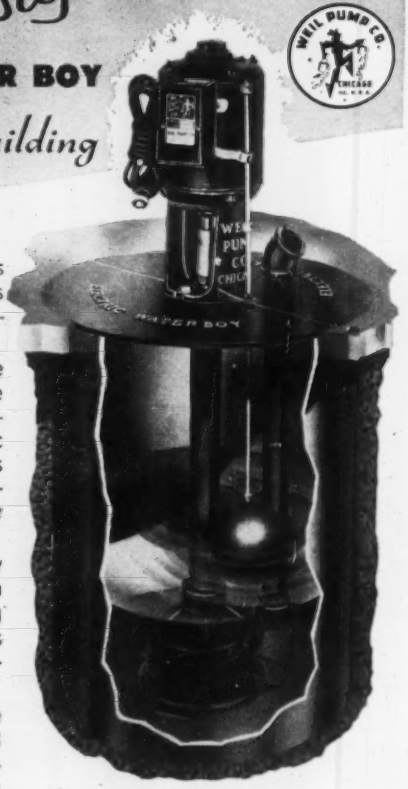


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## . . . Books

### Engineering License

How to Become a Professional Engineer—by John Constance. 272 pp. McGraw-Hill Book Co., Inc., New York, N. Y. $5.50.

For the unlicensed engineer or recent engineering graduate wondering how to get his license, this book has most of the answers. *Professional Engineers' Examination Questions and Answers* by William S. Lalonde, Jr., [ENR Mar. 8, 1956, p. 96] told how to prepare for the examination. *How To Be A Professional Engineer* is a supplement to this valuable book. It covers the period of the registration procedure up to the examination itself.

The volume summarizes registration laws and requirements, tells what is considered qualifying experience and how it can be evaluated, demonstrates how to write up an experience record to get quickest approval, and gives a general picture of the written examination and how to prepare for it.

It tells what to look for in refresher courses and explains the Engineer-In-Training Program. Among the book's 16 chapters is a discussion of professionalism, the meaning of professional engineering and a history of engineering registration.

This is a good general information book for the man who seeks the privilege to write P.E. after his name.

### Reports and Pamphlets

Motivating Factors in Engineer Employment (Three Parts)—Part I: A Conceptual Scheme of the Employment Process; Part II: The Motivating Factors in Engineer Job Selection; Part III: The Motivating Factors in Engineer Job Satisfaction. Industrial Relations News, 230 W. 41st St., New York 36, N. Y. $2.75 per publication; $7.50 for set of three studies.

Nailed Trussed Rafters for Industrial and Farm Structures—by E. George Stern. No. 33. Virginia Polytechnic Institute, Wood Research Laboratory, Blackburg, Va.

The Meaning, Significance and Expression of Commonly Measured Water Quality Criteria and Potential Pollutants—by Howard B. Brown. Bulletin No. 58. Louisiana State University and Agricultural and Mechanical College, Baton Rouge 3, La. $1.75.

American Standard Safety Code for Conveyors, Cableways and Related Equipment—American Society of Mechanical Engineers, 29 W. 39th St., New York 18, N. Y.

Configurations of Exit Taxiways from Runways—Institute of Transportation and Traffic Engineering, University of California, Berkeley, Calif.

Stages and Discharges of the Mississippi

River and its Outlets and Tributaries, 1956—293 pp. Office of the President, Mississippi River Commission, Corps of Engineers, U.S. Army, P.O. Box 80, Vicksburg, Miss. $1.00.

Stress and Displacement Characteristics of A Two-Layer Rigid Base Soil System, Influence Diagrams and Practical Applications—by Donald M. Burmister. Prof. Donald M. Burmister, Department of Civil Engineering, Columbia University, New York 27, N. Y. Paper, 35¢; influence diagrams 50¢.

Theoretical and Experimental Analysis of Members Loaded Eccentrically and Inelastically—Bulletin No. 447. University of Illinois Engineering Experiment Station, Urbana, Ill. $1.00.

Adhesives and Sealants in Building—160 pp. Building Research Institute, National Academy of Sciences, 2101 Constitution Ave., Washington 25, D. C. $5.00.

The Solid State for Engineers—by Maurice J. Sinnott. 522 pp. John Wiley & Sons, 440 Fourth Ave., New York 16, N. Y. $12.50.

School Needs in the Decade Ahead—by Roger A. Freeman. 273 pp. The Institute for Social Science Research, 917 15th St. N.W., Washington 5, D. C. $5.00.

Building for Peace and Prosperity—by Robert S. Hale. 96 pp. Exposition Press, Inc., 386 Fourth Ave., New York 16, N. Y. $3.00.

Materials and Methods of Architectural Construction—Third edition. 724 pp. John Wiley & Sons, 440 Fourth Ave., New York 16, N. Y. $12.00.

Proceedings of the Fourth International Conference on Soil Mechanics and Foundation Engineer (Three volumes)—Interscience Publishers, Inc., 250 Fifth Ave., New York 1, N. Y. Three-volume set $79.50.

The Strength to Move a Mountain—by W. Storrs Lee. 318 pp. G. P. Putnam's Sons, 210 Madison Ave., New York, N. Y. $5.00.

Philosophy of Structures—by Eduardo Torroja. 366 pp. University of California Press, Berkeley 4, Calif. $12.50.

Salmon of the Pacific Northwest: Fish vs. Dams—by Anthony Netboy. 152 pp. Binfords & Mort, 124 N.W. 9th Ave., Portland 9, Ore. $3.00.

Manual of Accident Prevention in Construction—The Associated General Contractors of America, Inc., 20th & E Sts. N.W., Washington 6, D. C. $3.25.

The House of Your Dreams: How to Plan and Get It—by W. A. Kirkpatrick. 198 pp. McGraw-Hill Book Co., 330 West 42nd St., New York 36, N. Y. $5.50.

The Examination of Waters and Water Supplies—by Edwin Windle Taylor. 792 pp. Little, Brown & Co., 34 Beacon St., Boston 6, Mass. $18.50.

The Upper Holston Projects—1,236 pp. Tennessee Valley Authority, Treasurer's Office, Knoxville, Tenn. $4.50.

Building Codes: Compilation of Standards—1,060 pp. American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. $8.00.


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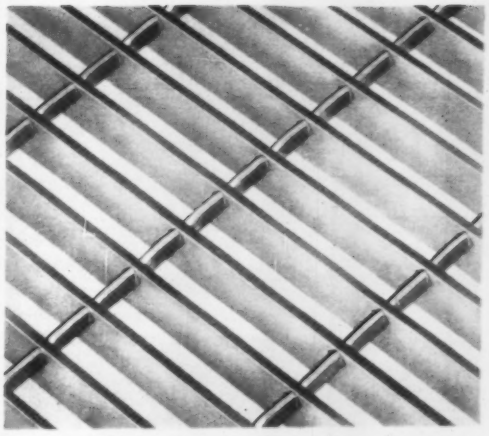

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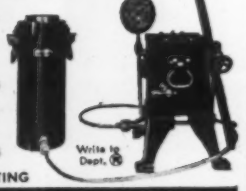

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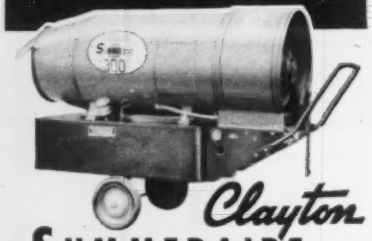

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# Unit Prices

## Drainage is problem on . . .

# Georgia Expressway

Extensive granite in cuts and the proper drainage or dewatering of soil depressions in the rock create problems for the contractor on this Atlanta-Augusta limited access road in DeKalb County, Ga.

The $5,900,911 award to Ledbetter-Johnson Co., Rome, Ga., by the Georgia State Highway Department, was 6.9% below the engineer's estimate and 18.1% below the high of the seven bids. M. M. Johnson is senior highway resident at Decatur, Ga.

The contract calls for 10.446 miles of grading, drainage, soil bound macadam base, 9 in. concrete pavement, lighting system, 14 concrete and steel bridges on a 4-lane limited access road, with interchanges and asphalt-paved frontage roads.

Contractors were given their choice of reinforced concrete pipe or bituminous coated corrugated metal pipe for the subdrains and crossdrains. The three low bidders, except in a few minor instances, elected the reinforced concrete.

The State Highway Department furnishes embankment material from road excavation.

Wages set for the job include: carpenters, $2.09; cement masons, $2.00; ironworkers, $2.00; pile drivermen, $2.00; shovel operators, $2.25; unskilled laborers, $1.00.

The seven bids include:

| | | |
|---|---|---|
| 1C | Ledbetter-Johnson Co., Rome, Ga. | $5,900,911 |
| 2 | MacDougald Constr. Co., Atlanta | 6,621,142 |
| 7 | Wright Contr. Co., Columbus, Ga. | 7,220,721 |
| EE | Georgia State Hwy. Dept., Atlanta | 6,337,751 |

| Bids: 6-27-58<br>Items | Unit | Quantity | Unit Prices<br>1C | <br>2 |
|---|---|---|---|---|
| **Roadway** | | | | |
| Clear & grub | ac | 20 | $75.00 | $200.00 |
| rdwy & bri sites, 471.1 ac | ls | job | 54,810 | 113,000 |
| Exc & borrow, uncl, incl ditches, channels & matl | cy | 3,920,000 | 0.332 | 0.44 |
| Overhaul, excavation | sta yd | 56,000,000 | 0.0015 | 0.003 |
| Subgr compact, special | mi | 11.0 | 500.00 | 200.00 |
| Exc, culv & minor structs. | cy | 26,700 | 1.15 | 3.00 |
| Bkfl, culv fndn, sel matl | cy | 2,725 | 1.80 | 5.00 |
| Conc cl A, culv & well cvrs | cy | 7,300 | 34.00 | 35.70 |
| cl B, headwall | cy | 407 | 50.00 | 52.50 |
| Steel, bar reinforcement | lb | 882,866 | 0.12 | 0.126 |
| RCP, SD, cl 2, 15" | lf | 800 | 2.60 | 2.30 |
| 18" | lf | 400 | 3.30 | 2.75 |
| 24" | lf | 200 | 4.95 | 3.80 |
| 30" | lf | 100 | 6.60 | 4.45 |
| CD, cl 2, 1-10' fill, 15" | lf | 15,882 | 2.60 | 2.50 |
| 18" | lf | 2,285 | 3.40 | 3.05 |
| 24" | lf | 454 | 5.00 | 4.35 |
| 30" | lf | 476 | 6.70 | 5.70 |
| 36" | lf | 428 | 9.55 | 8.40 |
| 48" | lf | 240 | 16.05 | ..... |
| ext. 36" | lf | 264 | 9.45 | 10.00 |
| long, cl 2, 1-10' fill, 15" | lf | 8,104 | 2.55 | 2.60 |
| 18" | lf | 1,802 | 3.35 | 3.05 |
| 24" | lf | 64 | 4.90 | 4.35 |
| CD, cl 3, 10-15' fill, 15" | lf | 136 | 2.75 | 2.65 |
| 18" | lf | 460 | 3.65 | 3.25 |
| 24" | lf | 198 | 5.15 | 4.60 |
| 30" | lf | 340 | 6.90 | 6.05 |
| 36" | lf | 272 | 9.80 | 8.65 |
| 48" | lf | 520 | 16.85 | ..... |
| 54" | lf | 230 | 19.95 | 17.00 |

| Bids: 6-27-58<br>Items | Unit | Quantity | Unit Prices<br>1C | <br>2 |
|---|---|---|---|---|
| Alt bit ctd CMP CD, 12 ga, 1-10' fill, 48" | lf | 240 | ..... | 13.40 |
| 10-15' fill, 48" | lf | 520 | ..... | 13.40 |
| 20-25' fill, 42" | lf | 180 | ..... | 12.00 |
| 30-45' fill, 48" | lf | 611 | ..... | 16.80 |
| CMP, perf, underdrain, 6" | lf | 17,760 | ..... | 3.50 |
| alt conc underdr, 6" | lf | 17,760 | 1.30 | ..... |
| Stone grtd riprap | sy | 400 | 6.00 | 5.00 |
| FAP markers, post | ea | 1 | 10.00 | 10.00 |
| plate | ea | 1 | 10.00 | 10.00 |
| arrow | ea | 1 | 10.00 | 10.00 |
| Sprig slopes, shldrs, grass plots, medians & ditches | sy | 1,235,000 | 0.25 | 0.24 |
| Loose sod | sy | 30,000 | 0.325 | 0.30 |
| Sod ditch checks | sy | 10,000 | 1.00 | 0.685 |
| Water for grassing | Mgal | 1,500 | 3.00 | 3.00 |
| Fertilizer, 1st appli | t | 105 | 48.00 | 53.00 |
| 2nd appli | lb | 37,000 | 0.24 | 0.25 |
| Agricultural lime | t | 400 | 8.00 | 10.00 |
| Asph, cut back, prime | gal | 90,600 | 0.175 | 0.20 |
| cmt surf treat, stone size M-5, tp 1 | sy | 160,730 | 0.17 | 0.21 |
| bit seal | sy | 160,730 | 0.115 | 0.13 |
| tack coat, AC-8 | gal | 10,000 | 0.18 | 0.14 |
| conc, A or B | t | 10,920 | 3.95 | 5.00 |
| E | t | 8,114 | 3.80 | 5.00 |
| material, AC-8 | gal | 272,500 | 0.125 | 0.13 |
| Cmt conc pave, 9" | sy | 372,625 | 3.97 | 3.92 |
| Conc comb curb & gut, 8x30" w/4" mountable curb | lf | 43,517 | 2.10 | 2.05 |
| 8x38" w/8" unmount curb | lf | 15,200 | 2.75 | 2.55 |
| Conc val gut w/curb, 8" header curb, 6x12", 4" mountable | sy | 230 | 6.00 | 6.60 |
| cmt pavement, 4" | sy | 300 | 3.00 | 3.50 |
| **Lighting System** | | | | |
| Ltg standards, rdwy | ea | 132 | 309.50 | 309.50 |
| bridge | ea | 2 | 344.00 | 344.00 |
| Luminaires, expressway | ea | 92 | 148.75 | 143.75 |
| ramp | ea | 38 | 133.50 | 133.50 |
| underps, Candler Rd | ls | job | 2,480 | 2,480 |
| Columbus Dr | ls | job | 1,752 | 1,752 |
| AWG, 600 V, type TW, #4 | lf | 40,790 | 0.19 | 0.19 |
| #2,0 | lf | 1,040 | 0.47 | 0.47 |
| Duct, 2-W, 2", conc encase type 2, 2" | lf | 1,320 | 2.57 | 2.57 |
| | lf | 20,455 | 0.92 | 0.92 |
| Rigid cond, thickwall, 1½" | lf | 300 | 1.35 | 1.35 |
| 2" | lf | 860 | 2.05 | 2.05 |
| Service pole risers, 2" | ea | 6 | 89.00 | 89.00 |
| AB breakers, type 2P, 1-70 ampere | ea | 9 | 48.60 | 48.60 |
| 1-15 ampere | ea | 6 | 21.30 | 21.30 |
| **Bridges** | | | | |
| Superst, compl, sta 396+18 | ls | job | 53,500 | 53,500 |
| 457+58 | ls | job | 52,000 | 58,413 |
| 565+45 | ls | job | 42,000 | 43,576 |
| 631+95 l | ls | job | 24,500 | 25,853 |
| r | ls | job | 24,500 | 25,853 |
| 675+76 | ls | job | 52,500 | 53,800 |
| 716+11 | ls | job | 43,700 | 46,897 |
| 789+00 | ls | job | 53,500 | 56,692 |
| 831+03 l | ls | job | 30,000 | 30,297 |
| r | ls | job | 30,000 | 30,297 |
| 879+94 l | ls | job | 26,300 | 27,504 |
| r | ls | job | 26,300 | 27,504 |
| 904+94 l | ls | job | 25,200 | 27,000 |
| r | ls | job | 25,200 | 27,000 |
| Conc, cl A | cy | 1,902 | 61.00 | 55.00 |
| Steel, bar reinforcement | lb | 307,177 | 0.1225 | 0.121 |
| Excavation, bridge #1 | cy | 2,087 | 11.50 | 9.75 |
| Piling, untreated timber | lf | 3,700 | 2.30 | 2.25 |
| conc, precast | lf | 2,850 | 8.90 | 9.50 |
| stl H, 10" @ 42 lb | lf | 700 | 5.20 | 5.25 |
| 12" @ 53 lb | lf | 6,255 | 6.25 | 6.00 |
| Test piles, timber | ea | 4 | 310.00 | 150.00 |
| conc, precast, 16" | ea | 4 | 700.00 | 800.00 |
| stl H, 12" @ 53 lb | ea | 19 | 450.00 | 330.00 |
| Load tests on piles, timb | ea | 4 | 100.00 | 100.00 |
| conc | ea | 4 | 100.00 | 200.00 |
| stl H | ea | 9 | 100.00 | 150.00 |
| Conc slope pavement, 4" | sy | 5,776 | 4.50 | 5.00 |
| Stone riprap | t | 1,400 | 5.00 | 8.00 |

SD subdrain CD crossdrain l left r right
Work order issued: 8-13-58. Complete: 480 working days
Liquidated damages: $300/cal day

# Materials and Labor Prices

Monthly Market Quotations by ENR Field Reporters

**See following ENR issues for OTHER PRICES**

- Cement, Aggregate Ready-mixed Concrete, Asphalt: Last, Oct. 9: Next, Nov. 6
- Iron and Steel Products, pipe: Last, Oct. 16: Next, Nov. 13
- Wood Products, Glass, Explosives, Chemicals: Last, Oct. 23: Next, Nov. 20
- Wage Rates, Building Board, Lath, Insulation: Last, Oct. 2: Next, Nov. 27

## STRUCTURAL CLAY BUILDING TILE, BRICK AND LIME—DELIVERED

| | STRUCTURAL CLAY TILE PARTITION—SCORED Per M. lots of 2,000 pieces or over. | | | STRUCTURAL CLAY TILE—LOAD BEARING—SCORED Per M. lots of 2,000 pieces or over, | | | BRICK Per M. In quantity | | LIME Per ton, In paper, Carload lot, | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3x12x12 In. | 4x12x12 In. | 8x12x12 In. | 8x12x12 In. | 10x12x12 In. | 12x12x12 In. | Common backing | Straight hard | Hydrated finishing | Common hydrated | Pulverized or lump |
| Atlanta | $149.90p | $149.90p | $299.80p | $334.55p | | | $30.50p | $32.70p | $23.50 | $24.50 | $ |
| Baltimore | 217.00 | 231.00 | 434.00 | 491.00 | 602.00 | 690.00 | 36.00k | 41.00k | 35.60 | 23.20 | |
| Birmingham | 135.00p | 152.00p | | 303.00p | 376.00p | 465.00p | 27.00ff | 38.00y | 35.02 | 22.30 | 26.33g |
| Boston | 232.00t | 248.00† | 463.25† | 556.00† | | | 41.50p | 46.50p | 39.20† | 31.20† | |
| Chicago | 135.00 | 145.00 | 280.00 | | | | 30.00 | 32.00 | 38.00 | 35.20o | |
| Cincinnati | 205.00j | 225.00j | 296.00jdd | 213.00j | 288.00j | 314.00j | 48.75j | 47.00j | 30.04j | 26.04j | 30.04j |
| Cleveland | 209.00 | 223.00 | | 475.00 | | | 38.00 | 41.00gg | 31.00 | 25.00 | |
| Dallas | 152.00 | 152.00 | 300.00 | 364.50 | 446.25 | 552.50 | 7.50 | 48.00 | 41.80 | 24.58 | 25.50 |
| Denver | | | | | | | 21.50 | 49.50 | 46.00p | 42.00p | 46.00p |
| Detroit | 273.00 | 298.00 | 545.00 | | 794.00 | 906.00 | 47.50p | 48.00p | 38.00 | 34.00 | |
| Kansas City | 158.00 | 158.00 | 312.00 | 312.00 | 400.00 | 500.00 | 33.00 | 33.00 | 36.26 | 34.26 | 29.76 |
| Los Angeles | r | r | r | r | r | r | 32.50§ | | 38.00 | 38.00 | 39.00 |
| Minneapolis | 192.00p | 215.00p | 437.00p | 215.00pw | | | 45.60rp | 54.00y | 47.00bbe | 37.00bbe | 49.00bbde |
| Montreal | 170.00au | 178.00au | 325.00aus | 270.00q | 400.00q | | 48.25b | 56.30b | 39.00 | 22.00 | 13.25 |
| New Orleans | 186.00 | 186.00 | 380.00 | 380.00 | | | 42.00 | 55.00 | 44.00 | 32.00 | 32.00P |
| New York | 176.90A | 188.70A | 283.00ch | 285.50hn | | | 44.00 | | 40.00 | 37.00 | |
| Philadelphia | 169.00 | 180.20 | 337.90 | 405.00 | | | 30/34 | 38/42 | 27.60 | 25.60 | 3.17m |
| Pittsburgh | 147.50t | 157.75t | 295.00t | 335.00t | 435.00t | 500.00t | 39.00t | 46.00t | 36.00t | 31.00t | |
| St. Louis | 172.00n | 180.00p | 375.00p | 401.00p | 459.00 | 621.50 | 41.50f | 43.00 | 0.95aa | 80aa | 1.35z |
| San Francisco | 156.85* | 177.10* | 235.30dd* | | | | 43.00* | 43.00* | 29.24 | 29.24 | 31.74 |
| Seattle | 235.00p | 270.00p | 490.00p | 265.00pw | | | 48.00 | 62.00 | 52.00bb | 38.00bb | 4.50mbb |
| Toronto | 158.00 | 173.50 | 336.00 | 263.00f | 378.00 | | 35.00 | 63.00 | 36.00 | 33.50 | 31.50 |

*§ F.o.b. yard. *• F.o.b. plant Stockton. *† F.o.b. yard Roxbury. *a Smooth. *b $4.50 del. *c 8 x 12 x 12 in.-6 cell. *d Pulverized hot. *e 5%, 10th following month. *f 8 x 8 x 12. *g Lumps, $26.72. *h F.o.b. trucks, job site N.Y.C. *i 60 lb sacks. *j Truck load or over. *k $1.00 discount. *l Red face. *m Per bbl., 180 lb. processed. *n 7⅝ x 7⅝ x 12. *o Mason's double hydrated pressure. *p Truck lots. *q Provincial and Municipal tax extra. *r Not used: earthquake danger *s 8 x 16 x 12. *t 2% cash. *u Incl. Federal tax. *v Sand lime. *w 5 x 8 x 12 *y Chi common. *z Pebble: 80 lb sack. *aa 50 lb sack. *bb LCL. *dd 6 x 12 x 12. *ff 80% common. *gg Smooth. $51.50 Rough.

## PAINT, ROOFING—F. O. B. CARLOAD LOTS

| | RED LEAD Per 100 lb. In 600-lb. (Approx.) bbl. Dry a | WHITE LEAD Per 100 lb. In 100 lb. cases in oil w | READY-MIXED PAINT Per gal., drums Graphite b | Aluminum c | Ferric Oxide d | ROOFING SUPPLIES; Carload lots f.o.b. factory Rolls, slate surfaced, 85-90 lb. per sq. | Asphalt felt, per 100 lb. | Tar felt, per 100 lb. | Asphalt coating per gal. | Tar pitch 360 lb. bbl. per ton |
|---|---|---|---|---|---|---|---|---|---|---|
| Atlanta | $14.25 | $30.125 | $3.59 | $3.86 | $3.31 | $3.39 | $2.20 | $2.62 | $0.67 | $57.75 |
| Baltimore | 14.00 | 29.75 | 3.00 | 4.40 | 3.50 | 2.78 | 4.25 | 4.25 | .48 | 54.25 |
| Birmingham | 14.25 | 30.125 | 3.90 | 3.40 | .... | 3.09 | 2.29ii | 2.29ii | .82ff | 45.00ee |
| Boston | 14.00 | 29.75 | .... | .... | .... | 3.81q | 2.56q | 2.83q | .50q | 58.00q |
| Chicago | 14.00 | 29.75 | .... | .... | .... | 4.05‡u | 3.02‡o | 3.32‡o | 46.00‡bbe | 57.70‡ |
| Cincinnati | 14.00 | 29.75 | .... | .... | .... | 3.13 | 2.70 | 2.73 | .428y | 55.96 |
| Cleveland | 14.00 | 29.75 | 2.51pqq | 3.31qq | 2.91qq | 3.51q | 2.44o | 2.85 | .58y | 49.00gg |
| Dallas | 14.25 | 30.50 | | 3.25ff | .... | 3.00u | 3.00o | 3.00o | .470 | 66.00hh |
| Denver | 14.50 | 30.25 | 3.98 | 5.20 | 3.70 | 2.96 | 2.16o | 2.55o | .48ff | 50.00 |
| Detroit | 14.00 | 29.75 | 2.70 | 3.95 | 2.70 | 3.11 | 2.23f | 2.42f | .51‡ff | 49.00 |
| Kansas City | 14.00 | 30.50 | 3.99 | 3.43 | 3.01 | 3.58ii | 2.61o | 2.61o | .71y | .... |
| Los Angeles | 14.00 | 30.00 | 3.30n | 4.50n | 4.20n | 3.20n | 2.15nii | l | .70ny | l |
| Minneapolis | 14.00 | 29.88/29.75 | | | | 3.09 | 2.52hi | 2.42hi | .442i | 50.00r |
| Montreal | ..... | 24.05 | 5.02Dfft | 5.94zfft | 4.65kfft | 5.40 | 4.65f | 4.65f | 1.60 | ..... |
| New Orleans | ..... | ..... | ..... | ..... | ..... | 2.78 | 1.98 | 2.85 | 0.680 | ..... |
| New York | 13.00C | 29.75 | .... | .... | .... | 3.20 | 2.16o | 2.45o | .425z | 49.00* |
| Philadelphia | 14.00 | 29.75 | 3.60 | 3.40/3.65 | 3.50/4.60 | 3.00/3.30 | 2.54o | 2.54o | .37/.45 | 48/54 |
| Pittsburgh | 14.00 | 29.75 | 2.20sF | 2.25sF | 2.25sG | 3.37e | 2.59e | .45 | .28y | 62.00 |
| St. Louis | 14.00 | 29.75 | | | | 3.27iis | 2.39hh | 2.85hh | .503jj | 56.00 |
| San Francisco | 14.00 | 30.00 | 3.20 | 4.30 | 3.50 | 2.95 | 2.09aa | 3.21 | .55cc | 51.40cc |
| Seattle | 14.00 | 30.25 | 3.47 | 4.19cc | | 3.82gcc | 3.30hcc | | .425z | 49.00A |
| Toronto | ..... | ..... | 5.00 | 5.75 | 5.50 | 4.50 | 3.45e | 2.65o | 1.10j | 50.00A |

*† Delivered. * Note: Red lead in oil 50% higher than white lead in oil. *• Aver. wt. approx. 425 to 550 lb drums. *a Red lead prices change frequently due to pig lead price changes. *b U.S. War Dept. Spec. 3-49A. *c ASTM Spec. D266-31. *d 80% minimum ferric oxide. *e 15 lbs. *f Per 432 sq ft. *g F.o.b. yard, Roxbury. *h Per roll, 65 lb. *i Net carload prices, Minneapolis and vicinity. *j 45 gal containers *k Over 80% ferric oxide. *l Not used. *n F.o.b. city. *o Per 60 lb roll. *p 6-drum, 50 gal each. *q Per 90-lb roll. *r F.o.b. factory, Chicago. *s Truckload. *t Incl. Federal tax. *u Per 90-lb square. *v Per ton. *w Price to contractors $1.25 less. *x Ready-mixed. *y 55-gal container. *z Drums. *aa 15 lb. sq ft. roll. *bb Roofers coating and cement. *cc LCL, truck delivery. *ee Asphalt pitch in 100 lb package. *ff 5-gal drums. *gg F.o.b. factory. *hh Incl. freight. *ii Per roll. *jj Asbestos roof coating. *kk 400 lb barrels. *ll ASTM Spec. D962-49. *C 95%. *D Std. black. *F Milt. spec.: E TTP27; F TTV81; G TTP31. *H No *R revised.

## PLASTER, VERMICULITE AND METAL BUILDING SHEETS & TUBING

| | PLASTER‡ | | VERMICULITE‡ | | | PERLITE‡ | | ALUMINUM SHEET†† | | STAINLESS STEEL† SHEET-TYPE 302g | | COPPER WATER* TUBING-TYPE L 2000 ft lots per ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Neat per ton | Gauging per ton | Home Insulation pellets | Plaster aggregate | Concrete Aggregate Untreated per bag of 4 cu ft | Plaster Aggregate | Concrete Aggregate Untreated | Flat .102" th 36"x96" & 48"x144" per lb‡t | Corr roof .032" th 35"x12' per shu | 20 ga 48"x96-120" per cwthh | 28 ga 36"x120" per cwtmm | ⅜"b | ½"c |
| Atlanta | $31.00 | $36.00 | $1.55e | $1.65e | $1.80sl | $1.65 | $1.65 | $0.424n | $9.45n | $61.44n | $67.50 | $16.74f | $23.41f |
| Baltimore | 23.80 | 34.60 | 0.95 | 1.15 | 1.15 | 1.15 | 1.65 | 0.487 | 0.489r | 64.70 | 73.45 | 0.1674 | 0.2371 |
| Birmingham | 33.00 | 39.00 | 1.55 | 1.55 | 1.80l | 1.55 | 1.55l | 0.458d | 10.48 | 67.34 | 76.09 | 0.1620 | 0.2261 |
| Boston | 22.00 | 30.00 | 1.40 | 1.40 | 1.45 | 1.45 | 1.50 | 0.462 | 29.35p | 65.42dd | 71.92ddff | 0.1620 | 0.2261 |
| Chicago | 26.80 | 26.80 | 1.55 | 1.60 | 1.60l | 1.60 | 1.60 | 0.506z | 10.294a | 65.15aee | 73.90aee | 0.1620 | 0.2261 |
| Cincinnati | 28.00* | 28.00* | 1.75 | 1.75 | 1.75 | 1.85 | 1.90 | 0.434 | 9.56r | 65.28 | 74.03ff | 0.1608 | 0.2244 |
| Cleveland | 28.00 | 44.70 | 1.13k | 1.16ii | 1.24l | 1.45 | 1.45 | 0.458aa | 8.48 | 65.33oo | 74.08oo | 16.20f | 22.61f |
| Dallas | 30.65 | 32.65 | 1.05 | 1.21 | 1.32 | 1.21 | 1.32 | 0.484 | 9.517r | 65.00 | 78.00 | 0.1520 | 0.2170 |
| Denver | 25.00 | 25.00 | 1.50 | 1.40 | 1.50 | 1.40 | 1.55 | 0.446 | 9.75 | 67.32gg | 76.09gg | 0.1772 | 24.69 |
| Detroit | 26.00 | 25.00 | 1.28 | 1.32 | 1.41 | 1.51k | 1.51k | 0.456a | 10.376a | 65.15a | 79.90a | 22.00f | 26.75f |
| Kansas City | 30.00 | 35.00 | 1.14 | 1.18 | 1.26l | 1.18 | .... | 0.444 | 9.50 | 67.50 | 76.25 | 15.85f | 22.09f |
| Los Angeles | 27.00 | 28.00 | 1.25k | 1.20k | 1.25 | 1.06 | 1.10 | 0.486 | 10.543d | 67.10 | 75.77 | 0.1620 | 0.2261 |
| Minneapolis | 35.00 | 35.00 | 1.55 | 1.70 | 1.80 | 1.40 | 1.40 | 0.468 | 16.23w | 65.71 | 2.21ff | 0.1620f | 0.2261 |
| Montreal | 27.60h | 35.60k | 1.25 | 1.40 | 1.50 | 1.15x | 1.15x | 0.495 | 12.10 | 64.75 | .... | 0.1827 | 0.2160 |
| New Orleans | 34.00 | 48.00 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 0.50 | 8.715 | 71.50 | 72.45 | 0.1585 | 0.2209 |
| New York | 25.25 | 31.25 | 1.35 | 1.30 | 1.50 | 1.40 | 1.40 | 0.493ad | 10.929a | 68.58 | 77.33 | 16.08f | 22.44f |
| Philadelphia | 23/25 | 32.00 | 1.35 | 1.35 | 1.40l | 1.05qq | 1.05qq | 0.44aw | 9.46a | 66/68a | 75/77a | 15.62f | 21.76f |
| Pittsburgh | 30.00mn | 33.00nn | 1.60nn | 1.50nn | 1.35 | 1.73 | 1.73 | 0.452 | 9.46 | 64.00 | 76.25pp | 0.1430 | 0.1596 |
| St. Louis | 29.00 | 40.00 | 1.35 | 1.60ff | 1.55 | 1.60 | 1.60 | 0.452 | 10.11 | 65.61 | 72.11y | 16.20fm | 22.61fm |
| San Francisco | 29.50 | 30.50 | 1.38 | 1.38 | 1.50 | 1.38o | 1.58o | 0.502 | 9.05r | 67.10 | 73.60 | 0.1620R | 0.2261 |
| Seattle | 42.40 | 45.60 | 1.55 | 1.25k | 1.85l | 1.50k | .... | 0.50 | 9.90 | 67.02 | 75.77 | 0.1620 | 0.1808 |
| Toronto | 28.00 | 45.50 | 1.20 | 1.30 | 1.35l | .... | 1.55 | 0.3995 | 24.00ae | 73.74 | 86.52 | 0.2562 | 0.2769p |

‡trucklots, delivered †fob warehouse *fob city *a delivered *b ½" O.D. *c ⅝" O.D. *d 0.100"th *e 34" x 62" sheet *f per 100 ft *g 3 tons ¾ ton; cold roll, annl & pickled 2B finish *h incl. Federal tax *i add 25¢ for pint of additive *j 1100 & 3003 alloy, mill finish *k bag of 3 cu ft *l treated with air entraining agent *m 2-1/2 M ft *n bulk mill fr equalized with nearest stocking competitor *o 250 sacks or more *p 100 sq ft *r per lb *s 30 lb bag *t 36" x 96;-10.81 lb/sh; 48" x 144"; 21.7 lb/sh *u 13.11 lb/sh *v fob plant *w 48" x 144" *x 100th *y 27 gauge *aa 16M lb & up *dd add $1.00 cwt boxing *ee 4 tons & up *ff 26 ga *gg add $2/cwt boxing; $0.75/cwt on skids *hh Theoretical wt for 48" x 96"; 60.4-lb. per sh *ii 300-bag lots *jj 100-lb bag *mm Theoretical wt; 19.7-lb per sh *nn 2% cash *oo skid packed *pp type 304 *qq Philadelphia and suburbs *R revised.

# Materials and Labor Prices

Monthly Market Quotations by ENR Field Reporters

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- Iron and Steel Products, pipe: Last, Oct. 16: Next, Nov. 13
- Wood Products, Glass, Explosives, Chemicals: Last, Oct. 23: Next, Nov. 20
- Clay Products, Lime, Plaster, Paint, Roofing: Last, Sep. 25: Next, Nov. 27

## BUILDING BOARD & LATH AND INSULATION—DELIVERED TRUCKLOAD LOTS

| | GYPSUM PLASTER BOARD tapered edge per Msq ft ½" | ⅜" | GYPSUM BOARD LATH plain or perf per Msq ft ⅜" x 16" x 48" | GYPSUM SHEATHING tongue & groove per Msq ft ½" x 2' x 8' | FIBER BOARD SHEATHING asph impreg & coat per Msq ft ½" sq ed | ¾" T&G | FIBER BOARD INSULATION sq edge, paint per Msq ft ½" | MINERAL WOOL INSULATION loose, per 40-lb bag a | 3" batts per M sf | GLASS FIBER INSULATION loose, per 40-lb bag a | 3" batts per M sf | ALUMINUM FOIL 60¢ Kraft Expansible 1 side foil per roll of 250 s. f. | Blanket 2 layers foil per Msq. ft |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Atlanta | $70.00 | $60.00 | $43.50 | $70.00 | $70.00 | $127.00 | $70.00 | $1.50z | $60.00 | $2.00b | $75.00 | ..... | ..... |
| Baltimore | 51.70f | 45.55f | 34.25f | 55.35f | 65.00f | 108.50f | 69.00f | 1.30 | 66.50 | 1.50 | 45.00 | $4.00g | $33.50 |
| Birmingham | 68.90 | 57.00 | 47.77 | 75.00 | 65.00 | 136.50 | 81.00 | 1.40 | 70.00 | 1.60 | 75.00 | 3.13g | ..... |
| Boston | 60.00m | 50.00m | 36.00m | 60.00m | 65.00m | 120.00m | 79.00kn | 1.45b | 75.00 | .... | 65.00 | 5.30 | 53.50g |
| Chicago | 67.00 | 54.00 | 45.00 | 62.00 | 87.00 | 123.00 | 87.00 | 1.35 | 80.00 | .... | 63/65l | 5.25g | ..... |
| Cincinnati | 48.00w | 42.85w | 32.05w | 51.15w | 70.00w | 125.00w | 72.50w | 1.30 | 65.00 | 1.30 | 76.50 | 3.12j | 50.00 |
| Cleveland | 62.00 | 56.50 | 41.50 | 65.00 | 75.00 | 125.00 | 80.00 | 1.35/1.50 | 72.00 | .... | 55.00* | 17.50ho | 55.00 |
| Dallas | 55.00 | 52.50 | 42.50 | 60.00 | 68.50 | 117.50 | 68.50 | 2.00 | 62.25 | 1.45 | 68.15 | 4.50gA | .....q |
| Denver | 62.00 | 54.50 | 41.00 | 62.00 | 75.90 | 128.00 | 74.90 | .... | 71.00u | 1.30u | 60.00m | 11.00r | 21.00 |
| Detroit | 64.00 | 53.00 | 37.00 | 68.00 | 60.50 | 100.50 | 60.50 | .... | ..... | 1.95b | 88.00 | ..... | ..... |
| Kansas City | 65.00 | 55.00 | 40.00 | ..... | 72.00 | 115.00 | 75.00 | 1.40 | 75.00 | 2.00 | 75.00 | 3.60d | 53.98d |
| Los Angeles | 68.00 | 60.50 | 0.33z | 64.50 | 75.00 | 125.00 | 80.00 | .... | 83.00 | 1.35z | 64.00 | 4.40g | ..... |
| Minneapolis | 75.00 | 65.00 | 0.41z | 80.00 | 78.00 | 140.00 | 78.00 | 2.00y | 80.00 | 1.80 | 80.00 | 5.50 | ..... |
| Montreal | 56.00 | 47.40 | 34/39 | 53.00 | 63.25 | ..... | 63.00 | 1.50 | 66.00 | 1.50 | 66.00 | 9.00q | 56.00 |
| New Orleans | 60.00 | 50.00 | 45.00 | 60.00 | 75.00 | 140.00 | 72.50 | 1.75 | 65.00* | .... | ..... | ..... | ..... |
| New York | 55.25 | 47.25 | 36.25 | 54.25 | 75.00 | 120.00 | 75.00 | 1.55b | 68.50 | 1.55b | 68.50 | 4.38i | 52.50c |
| Philadelphia | 50/55 | 48/53 | 36.40 | 49/54 | 68/73 | 105/110 | 55/65 | ..... | 60/70 | .... | 70/75 | 5.60/6.34 | 40/80 |
| Pittsburgh | ..... | 65.01 | 40.00 | ..... | 62.50 | 102.50 | 57.50 | 1.05z | 55.00z | 1.05z | 55.00z | 3.80sq | 38.50 |
| St. Louis | 67.00 | 56.50 | 40.00 | 70.00 | 76.50 | 121.50 | 80.00 | 1.35y | 85.00 | 1.65 | 65.00 | 4.50sq | ..... |
| San Francisco | 57.00 | 48.00 | 0.35z | 58.00 | 68.00 | 109.00 | 67.00 | 1.60 | 68.50 | 1.60 | 66.50 | 4.95 | 55.00 |
| Seattle | 68.30 | 57.65 | 51.05 | 65.00 | 74.50 | 125.00 | 73.50 | 1.60t | 74.00 | 1.90*p | 50.00*l | 4.25 | 46.50 |
| Toronto | 55.00 | 47.00 | 38.00 | 64.50 | 78.00 | ..... | 1.50 | 62.50 | ..... | ..... | 62.50 | 18.00e | 46.00 |

*a F.o.b. warehouse. *b Semi thick. *c 30¢ bag. *d 12' to 24' width. *e 40¢ kraft paper, 5 Msf, 100 500 rolls. *f 20¢ sq ft bag, 4" thick. *g Full trailer loads. *h 80¢ kraft paper backing 400 rolls or over. *i LCL. *j 40¢. *k 80¢. *l 2". *m 10 ton quantities. *n Distributor's siding. *o Per Msf roll. *p 32¢ bag. *q 500 sf. *r Per cwt. *s 35¢ bag. *t 26¢ bag. *u Flame Proof $75. *w F.o.b. city. *x Sq. yd. *y 30¢ bag. *z Spun rock wool, 3½ cu ft bags. *A 650 sf.

## HOURLY WAGE RATES—Base rate + fringe benefits

| | Bricklayers | Carpenters | Struct. Iron Workers | Hoisting Engineers | Plasterers | Electrical Workers | Steamfitters | Common Labor Building | Common Labor Heavy Cons |
|---|---|---|---|---|---|---|---|---|---|
| Atlanta | $3.75 | $3.05 | $3.15+7½¢d | $3.225 | $3.125 | $3.60 | $3.30+25¢d | $1.70 | $1.70 |
| Baltimore | 3.95+10½¢d | 3.20+7½¢d | 3.90+7½¢d | 3.80/3.95+10¢fg | 3.45+7½¢d | 3.425+7½¢ei | 3.30+7½¢d | 2.05+7½¢d | 2.05+7½¢d |
| Birmingham | 3.85 | 2.95 | 3.35+10¢i | 2.77* | 3.17 | 3.425 | 3.40+10¢i | 1.75 | 1.85 |
| Boston | 3.75+20¢a | 3.40+10¢d | 3.70+20¢a | 3.77+10¢f | 3.65+35¢ | 3.70+12¢a | 3.20+10¢d | 2.55+7¢d | 2.50+7¢d |
| Chicago | 3.87½+7½¢i | 3.65+20¢a | 4.00+16¢i | 3.55+5¢i | 3.70+23¢i | 3.90+12¢i | 3.75+22¢ao | 2.77½+7½¢i | 2.77½+7½¢i |
| Cincinnati | 3.85 | 3.57½ | 3.60+10¢d | 3.375/3.60 | 3.62½ | 3.82+6¢N | 3.80+9½¢a | 2.62½ | 2.525 |
| Cleveland | 3.805+10¢i | 3.83 | 3.73+10¢i | 3.83 | 3.83 | 3.855 | 3.73+10¢d | 3.10 | 3.00§ |
| Dallas | 3.875 | 3.175 | 3.225+7½¢i | 3.20/3.25 | 3.56½¢+10¢i | 3.375+7½¢i | 3.375+8½¢i | 1.70 | 1.70 |
| Denver | 3.75 | 3.25 | 3.175+7½¢d | 3.05 | 3.475+12½¢ss | 3.60+14¢i | 3.55+10¢i | 2.17 | 2.17 |
| Detroit | 3.77+38¢ff | 3.40+40¢a | 3.75+22½¢ff | 3.47+25¢h | 3.66+34¢ei | 3.85+34½¢C | 3.73½+14¢a | 2.65+33¢i | 2.80+10¢i |
| Kansas City | 3.85 | 3.325 | 3.40 | 3.345 | 3.625 | 3.60+28¢ci | 3.40+9¢W | 2.355 | 2.405 |
| Los Angeles | 3.85+10¢hh | 3.375+10¢d | 3.85+20½¢kk | 3.41+10¢d | 4.00+30¢ii | 4.15i | 3.80+38½¢f | 2.68+10¢d | 2.68+10¢d |
| Minneapolis | 3.725 | 3.30 | 3.47 | 3.30 | 3.40+23¢ij | 3.38+36¢n | 3.42+20¢i | 2.55 | 2.55 |
| New Orleans | 3.475+5¢i | 2.95 | 3.25+7½¢i | 3.075+7½¢i | 3.07+5¢i | 3.475+7½¢i | 3.40+15¢i | 1.70 | 1.70 |
| New York | 4.45+38¢ss | 4.10+33¢hJ | 4.30+30¢ss | 4.35+35¢ss | 4.35+52¢ii | 3.90+51¢ai | 4.30+47¢kL | 3.00+24½¢ | 3.00+24½¢ |
| Philadelphia | 4.00+17¢i | 3.635 | 4.23+17½¢M | 4.095+10¢i | 3.90+15¢i | 4.07½+16¢i | 4.00+11½¢i | 2.35 | 2.65 |
| Pittsburgh | 4.15+20¢m | 3.675+10¢i | 4.00+30¢m | 3.64+10¢d | 3.825+20¢m | 4.35+32½¢d | 4.00+20¢m | 2.45+20¢m | 2.30+20¢m |
| St. Louis | 3.90+31½¢ | 3.575+10¢i | 3.60+7½¢i | 3.675i | 3.80+7½¢i | 3.97½+29.8¢d | 3.92½+27½¢i | 2.625+10¢i | 2.625+10¢i |
| San Francisco | 3.95+52½¢ddd | 3.30+32½¢mm | 3.85+20¢m | 3.405+10¢i | 3.74+52½¢ii | 3.91+34½¢ff | 3.70+48¢fC | 2.685+10¢i | 2.685+10¢i |
| Seattle | 3.90+10¢d | 3.13+10¢d | 3.40+10¢d | 3.29+20¢a | 3.40+10¢d | 3.65+26¢T | 3.70+23¢T | 2.70+10¢d | 2.70+10¢d |
| Montreal | 2.20+5¢ii | 2.10+5¢ii | 2.25+5¢ii | 2.00+5¢ii | 2.35+5¢jj | 2.20+5¢ii | 2.32+5¢ii | 1.50+3¢ii | 1.50+3¢ii |
| Toronto | 2.85+11¢i | 2.50+10¢i | 2.55+17¢i | 2.60+10¢i | 2.70+19¢ii | 2.80+11¢i | 2.79+19¢ii | 1.65+6¢i | 1.65+6¢i |

ENR Skilled Average (Bricklayers, Carpenters, Iron Workers): $3.753. ENR Common Average $2.477

R: revised.

| | Truck drivers 1½ T | under 4 cy | over 4 cy | Tractor Operators Incl. bulldozers 34-49 hp | 70-100 hp | 100 & over | Tractor scraper 15-18 cy | Power cranes & shovels ½ cy | ¾ cy | Motor grader oper | Air comp oper | Air tool oper |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Atlanta | $1.70 | $1.80 | $2.05 | $2.70 | $2.85 | $2.85 | $2.70 | $3.225 | $3.375 | $2.70 | $2.625 | $1.77 |
| Baltimore | 2.00+7½¢e | 2.00+7½¢e | 2.10+7½¢kk | 3.40/3.55 +10¢eh | 3.40/3.55 +10¢eh | 3.40/3.55 +10¢eh | 3.40/3.55 +10¢eh | 3.80/3.95 +10¢eh | 3.80/3.95 +10¢eh | 3.40/3.55 +10¢eh | 2.85/3.00 +10¢eh | 2.10+7½¢e |
| Birmingham | 1.83 | 2.02ff | 2.35ee | 2.79 | 2.79 | 2.79 | 2.93 | 2.93 | 2.93 | 2.89 | 2.52 | 1.90 |
| Boston | 2.395e | 2.45e | 2.65e | 3.40+10¢ad | 3.40+10¢ad | 3.40+10¢ad | 3.40+10¢ad | 3.775+10¢e | 3.775+10¢e | 3.40+10¢e | 3.325+10¢e | 2.60+7¢ee |
| Chicago | 2.36+15¢fa | ..... | ..... | 3.30+5¢e | 3.45+5¢e | 3.20+5¢e | 3.00+5¢e | 3.90+5¢e | 3.90+5¢e | 3.25+5¢e | 3.10+5¢e | ..... |
| Cincinnati | 2.45+2½¢ee | 2.55+2½¢ee | 2.65+2½¢ee | 3.375 | 3.375 | 3.375 | 3.375 | 3.375 | 3.60 | 3.60 | 3.60 | 3.60 |
| Cleveland | 2.75+10¢e | 2.75+10¢e | 2.75+10¢e | 3.58 | 3.58 | 3.58 | 3.58 | 3.83 | 3.83 | 3.58 | 3.455 | 3.455 |
| Dallas | 1.70 | 1.70 | 1.70/2.625f | 1.70/2.625f | 1.70/2.625f | 1.70/2.625f | 1.70/2.625f | 1.70/2.625f | 1.70/2.625f | 1.70/2.625f | 1.70/2.625f | 1.775/2.00f |
| Denver | 2.30 | 2.40 | 2.55 | 2.30 | 2.90 | 2.90 | 2.90 | 3.05 | 3.05 | 2.90 | 2.90 | 2.45 |
| Detroit | 2.80 | 2.80 | 2.80 | 3.50+10¢e | 3.50+10¢e | 3.50+10¢e | 3.50+10¢e | 3.50+10¢e | 3.50+10¢e | 3.50+10¢e | 3.225+10¢e | 2.71+25¢mm |
| Kansas City | 2.33e | 2.33e | 2.405p | 2.65 | 3.10e | 3.10e | 3.10e | 3.345 | 3.345 | 3.10 | 3.345f | 2.45 |
| Los Angeles | 2.83+10¢e | 2.83+10¢e | 3.03+10¢e | 3.71+10¢e | 3.71+10¢e | 3.71+10¢e | 3.81+10¢e | 3.81+10¢e | 3.81+10¢e | 3.81+10¢e | 2.93+10¢e | 2.89+10¢e |
| Minneapolis | 2.55 | 2.55e | 2.70e | 2.93 | 3.15e | | 3.15 | 3.37e | 3.63e | 2.93 | 2.82 | 2.70 |
| New Orleans | 2.425+7½¢e | 2.425+7½¢e | 2.425+7½¢e | 3.075+7½¢e | 3.075+7½¢e | 3.075+7½¢e | 3.075+7½¢e | 3.075+7½¢e | 3.075+7½¢e | 3.075+7½¢e | 2.425+7½¢e | 1.80 |
| New York | 2.21+22½¢ee | 3.025+23½¢hh | 3.025+23½¢hh | 3.725+30¢h | 3.725+30¢h | 3.725+30¢h | 3.85+31¢h | 4.60+37¢h | 4.60+37¢h | 3.85+31¢h | 3.85+31¢h | 3.45+28¢ee |
| Philadelphia | —2.315/2.45+12½¢ee— | | | —3.34/4.09½+10¢e— | | | 3.34/4.09½ +10¢e | —3.34/4.09½+10¢e— | | 3.34/4.09½ +10¢e | 3.34/4.095+10¢e | 2.35+15¢e |
| Pittsburgh | 2.37+20¢m | 2.51+20¢m | 2.61+20¢m | 3.44+10¢e | 3.44+10¢e | 3.44+10¢e | 3.44+10¢e | 3.84+10¢e | 3.64+10¢e | 3.64+10¢e | 3.15+10¢a | 2.30+20¢m |
| St. Louis | 2.65+7½¢ee | 2.70+7½¢e | 2.70+7½¢e | 3.675kk | 3.675kk | 3.675kk | 3.675kk | 3.675kk | 3.675kk | 3.675kk | 3.125kk | 3.125kk |
| San Francisco | 2.81+10¢e | 2.75+10¢e | 2.89+10¢e | 3.70+10¢e | 3.70+10¢e | 3.70+10¢e | 3.70+10¢e | 3.85+10¢e | 3.85+10¢e | 3.75+10¢e | 3.10+10¢e | 2.955+10¢e |
| Seattle | 2.87+17½¢ee | 2.87+17½¢ddd | 3.07+17½¢ee | 3.26+20¢ee | 3.26+20¢ee | 3.26+20¢ee | 3.26+20¢ee | 3.63+20¢ee | 3.63+20¢ee | 3.35+20¢ee | 2.99+20¢ee | 2.90+10¢ee |
| Montreal | 1.50+3¢ii | 1.50+3¢ii | 1.50+3¢ii | 1.70+4¢ii | 1.93+4¢ii | 1.93+4¢ii | 1.93+4¢ii | 2.19+5¢ii | 2.19+5¢ii | 1.93+4¢ii | 1.80+4¢ii | 1.80+4¢ii |
| Toronto | 1.75+9¢ii | 1.75+9¢ii | 1.75+9¢ii | 2.00+8¢ii | 2.10+8¢ii | 2.10+8¢ii | 2.10+8¢ii | 2.60+10¢ii | 2.60+10¢ii | 2.10+8¢ii | 2.15+9¢ii | 2.15+9¢ii |

*a H & WF. *b lower rates, straight time; other broken. *c 2-axle; 10 wh. 3 axle $2.45; Euclid $2.65. *d intermediate. *e bldg contr.; highway $2.45+7¢ WF. *f less than 2-T. *g up 9 cy. *h 4% WF, 4% PF. *i 6-8 cy. *j plus $2 pd by employer for hosp. death benefits to family. *k bldg constr; steel contr $3.475. *l higher rates are union, other taken from min. wage approved by County Comm. Court. *m 10¢ H & W, 10¢ PF. *n flatbed. *o under 10 cy. *p over 10 cy. *q over 50 hp. *r blade grader. *s V F. *t single. *u Incl. 10¢ H & W. *w 7½¢ H & W. 5¢ PF. *x 7½¢ WF, 10¢ PF. *y to 3½ cy. *z 3½ cy & over. *aa plus W & PF. *bb 3% WF, 2% PF; plus 11 PH. *cc 11¢ WF, 11½¢ PF, 11 PH. *dd up to 5 cy. *ee 5 cy & over. *ff 1½ to 3 T. *gg up to 5 T; 5 T & over, 2.22. *hh 5¢ H & WF, 2½¢ PF. *ii 4% VF. *jj Incl. 10¢ WF. *kk Incl. 2% VF. *mm 10¢ H & WF, 10¢P, 5¢ VP. *oo Plus $2.25 wk. WF. *ss 5% WF, plus 6 PH. *tt 10¢ H & WF, 10¢ PF. *R revised

*a 6 hr day. *b 7 hr. day. *c 5% vac. stamp fund plus 12¢ WF for bricklayers; 4% VF for electricians plus 10¢ WF, 1% PF. *d H & WF. *e 10¢ H & W, 10¢ VF. *f 10¢ H & W, 7½¢ VF. *g 2¢ Ed, 7½¢ H & W. *h 7½¢ WF, 1¢ AF. *i WF. *j Inc. 4% VF; 1% PF pd by employer. *k 10¢ WF, 10¢ VP, 5¢ HP. *l 4% VF. *m 10¢ WF, 10¢ PF. *n 7% V & Hol., 3% H & W, 1% PF. *o 10¢ WF, 10¢ PF. *p 3% WF, 3% PF+10¢ in lieu of pd. hol. *q 10¢ WF, 6% V & H, 3% PF. *r 4% WF, 20¢ PF. *s 5% W & PF, 4% VF, 1% NC, 1% JI, plus 6 PH. *t Inc. 10¢ WF. *u 10¢ WF, 1% PF. ½¢ apprent. *v 1 drum; 2 drums, 2.93. *w 20¢ VF, 17½¢ PF, 3¢ Prom., 12¢ W. *x 10¢ H & W, 10¢ PF. *z 10¢ WF, 3% HP, 15¢ V & H. *A 15¢ WF, 15¢ PF, 20¢ BF. *B 7½¢ VP, 5¢ PF, 1½¢ Ed. F. *C 9¢ H & W & ins., 7% V & H. *D 4% VF, 10% WF, 1% PF. *E 20¢ WF, 30¢ VF. *F Plus $4 per day annuity contrib. *G 10¢ WF, 10¢ VF, 3¢ prom. *H 10¢ WF, 10¢ VP, 3% PF, 2% PH. *I 5¢ H & WF, 5¢ advtg. *J 5% WF, 6 PH, 3% PF. *L 3% WF, 3% PF, 3% VF, 1% Ed. F. *M 10½¢ WF, 7½¢ PF. *N 1% PF, 1% Ed. F. *O 10¢ WF, 1% NECA, 4¢ AF, 10¢ VF. *P 10¢ H Ins., 7½¢ PF, 5¢ VF. *Q 2 drums; 1 drum $3.10/3.25+10¢ WF. *R 10¢ H & WF, 2¢ admin, 1¢ apprent. *S 5¢ H & WF, 7¢ PF. *T H & W, VF. *U 10¢ WF, 4% VF, 1% PF, 5¢ Ind. F. *V 4% WF, 4% PF. *W 7½¢ WF, 1½¢ Ed. F. *X 7½¢ WF, 15¢ VF, 3½¢ PF. *aa 7¢ WF, 15¢ PF. *dd 17½¢ WF, 20¢ PF, 10¢ PH, 5¢ Jt Bd. *ff 10¢ H & W, 5¢ PF. *hh 7½¢ H & WF, 5¢ indus. prom. *ii 4% WF, 4% PF, 6 PH. *jj 2% VF. *kk 10¢ HW, 10¢ P, ½¢ AF. *ll 10¢ HW, 10¢ PF, 5¢ Trust F, 5¢ Trade Prom. *mm 10¢ W, 20¢ PF, 2½¢ Gen. Ben.

## MEXICO CITY WAGES & PRICES

| Wages, per 8 hr day, av per hr | Sep. '58 | Oct. '58 |
|---|---|---|
| Common labor, building (peons) | 1.57 | 1.57 |
| heavy const (peons) | 2.00 | 2.00 |
| Skilled labor, carpenters 1 cl | 3.25 | 3.25 |
| bricklayers 1 cl | 2.87 | 2.87 |
| struct. ironworkers | 4.38 | 4.38 |

| Pesos, F.o.b. City | Sep. '58 | Oct. '58 |
|---|---|---|
| Struct. steel shapes, fob Monterrey | | |
| 3"-15" x 12 meters per metric ton | 2400 | 2400 |
| Reinf. steel, corrugated rods, per ton | | |
| ⅝"-1½" x 11 meters | 1800 | 1800 |
| ¾"-1" x 11 meters | 1750 | 1750 |

| Gravel, truckload at 3½ cu meters | Sep. '58 | Oct. '58 |
|---|---|---|
| Blue gravel | 84.00 | 84.00 |
| Rose gravel | 65.00 | 65.00 |
| Cement, std. port. (Tolteca) | 230.00 | 230.00 |
| Lumber, 1" pine per M ft. | 1700.00 | 1700.00 |
| 1½" pine per M ft. | 1900.00 | 1900.00 |

# Bids Asked—Low Bidders—Contracts Awarded—

*Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 36, N. Y., ELSIE EAVES, Manager*
*J. A. MAHONEY, M. WETZEL, M. E. SCIORRA, D. TARTAGLIA, Reports*
*J. H. WEBBER, M. R. ROESSLER, E. R. HUBER, Statistics.*

## NEW ENGLAND

### HEAVY CONSTRUCTION—LB & CA

† **Me., Limestone**—READINESS CREW and UTILITIES (SAC) On or About 11/13—U. S. Eng., 562 Congress St., Portland, 70-man readiness crew bldg., constr. apron support utilities; constr. patrol road around alert apron and access roads, Loring Air Force Base. ENG 19-016-59-39. $800,000-$900,000. Plans deposit $25. CD 9/8.

† **Me., Bangor**—READINESS CREW BLDG. and UTILITIES (SAC) On or About 11/18—U. S. Eng., 562 Congress St., Portland, Me., 70-man readiness crew bldg.; apron support utilities (SAC); constr. patrol road around alert apron and access roads, Dow Air Force Base, ENG-19-016-59-51. $900,000-$1,000,000. Plans deposit $25. CD 9/9.

† **Me., Limestone**—FLIGHT SIMULATOR TRAINING BLDG., etc.—BA On Or About 11/19—U. S. Eng., 562 Congress St., Portland, Me., 1 story, 5,900 sq. ft. flight simulator training bldg., $100,000-$200,000; partly two stories readiness crew bldg. $150,000-$250,000; 1 story T-shaped 6,900 sq. ft. rocket storage bldg. $150,000-$200,000; electrical distr. incl. transformers, concrete pad and fencing, underground secondary electrical service, etc. under $25,000, all at Loring Air Force Base. ENG-19-016-59-38. Plans $25 each. CD 9/8.

† **Mass., Falmouth**—READINESS CREW BLDG. (SAC)—BA On Or About 11/20—U. S. Eng., 187 Westminster St., Providence, R. I., 70-man readiness crew bldg.; bldg. utilities and site work incl. b. conc. road and parking area, Otis Air Force Base, ENG.-19-016-59-43. $450,000-$550,000. Plans deposit $20. CD 9/17.

† **Me., Limestone**—ORGANIZATIONAL MAINTENANCE HANGAR—BA On Or About 11/25—U. S. Eng., 562 Congress St., Portland, Me., 154 x 175 ft. pull-thru-type organizational maintenance hangar, Loring Air Force Base. ENG.-19-016-59-40. $700,000-$800,000. Plans deposit $2. CD 9/8.

### BUILDINGS—BA

▲ **R. I., Portsmouth**—MONASTERY, etc.—BA 11/10—Portsmouth Priory & School, Order of St. Benedict, Coreys Lane, church and monastery. $1,000,000. Petro Belluschi & Anderson, Beckwith & Haible, 11 Beacon St., Boston, Mass., archts. CD 10/2.

**N. H., Manchester** — SCHOOL — BA 11/14 — City, Jt. School Bldg. Comn., City Clerk's Office, City Hall, high school addns., alterations, 9 Notre Dame Ave. $686,000. Plans deposit $50. Koehler & Isaak, 1880 Elm St., archts. CD 10/3/56.

### HEAVY CONSTRUCTION—LB & CA

**NEW HAMPSHIRE**—Dpt. P. Wks. & Hys., Concord, Bids opened 10/2.

**E. V. Del Duca Constr. Co., Inc.**, 105 Oak St., Box 296, Methuen, Mass., LB $319,517, 2.69 m. hot b. conc. and 36 ft. concrete bridge NH 125, Kingston-Brentwood, Rockingham Co. CD 9/23.

**La May Constr. Co.**, Old Saybrook, Conn., CA $145,516 sanitary sewers, force main, utilities, Contr. 1958-2, GROTON, CONN. Groton Sewer Authority, GROTON, CONN. Bids Sept. 27. CD 8/25.

### BUILDINGS—LB & CA

**Daniel O'Connell Sons, Inc.**, 480 Hampden St., Holyoke, Mass., LB $709,829, HHFA-Mass. 19-CH-33 (D), RESIDENCE BLDG. on campus, SOUTH HADLEY, MASS. Mount Holyoke College, Bd. Trustees, South Hadley, Mass. Bids Oct. 16. CD 10/14.

▲ **John Bowen Co., Inc.**, 173 Boston St., Dorchester, Mass. CA $1,374,537, est. $1,350,000, JUNIOR HIGH SCHOOL, Whitney Estate, SWAMPSCOTT, MASS. Town, Supt. Schools, 24 Redington St., Swampscott, Mass. Bids Oct. 9. CD 10/15, under LB.

▲ **Lifetime Homes, Inc.**, Cornfield Point, Old Saybrook, Conn., Owner Builds. $1,000,000, 100 HOUSES, "Forest Glen" Maple Ave., OLD SAYBROOK, CONN.

**Berkshire Constr. Co.**, 132 Norman St., Bridgeport, Conn. LB $414,568 (9 bidders) STUDENT'S UNION and FOOD SERVICE BLDG., Proj. BI-R-140, Danbury State Teachers College, DANBURY, CONN. State P. Wks. Comr., 165 Capitol Ave., Hartford, Conn. Bids Oct. 15. CD 9/23.

**Earl C. Wheeler**, 15 Lewis St., Hartford, Conn., CA $583,426 Northwest Elementary SCHOOL, North St., WINDSOR LOCKS, CONN. Town, School Bldg. Comn., Town Hall, Windsor Locks, Conn. Bids Sept. 23, awarded Oct. 14. CD 9/29.

## MIDDLE ATLANTIC

### HEAVY CONSTRUCTION—BA

† **New York**—BA 11/6—U. S. Eng., foot of Bridge St., Buffalo, Zone 7, constr. spare gate facilities, St. Lawrence Seaway, St. Lawrence River, CIVENG-30-023-59-20.

### BUILDINGS—BA

▲ **N. Y., New York**—SCHOOL—BA 11/7—Bureau Constr., Supt. School Bldgs., 4th Fl., 42-15 Crescent St., Long Island City, Zone 1, general constr., plumbing and drainage, heating and ventilating, electrical work and lighting fixtures, Junior High School 136, Prospect Ave., Ritter Place, Union Ave. and Jennings St., Bronx Boro. $3,538,000. Plans deposit $35 for general, $10 each for trades. Extended date. CD 9/19.

▲ **N. J., Vineland**—HOSPITAL WING—BA 11/5—Newcomb Hospital, hospital wing. $1,500,000, Extended date, Helge Westermann, 113 W. 57 St., New York 19, N. Y., archt. CD 10/1.

### HEAVY CONSTRUCTION—LB & CA

**Peter Peterson**, 488 Ocean Ave., East Rockaway, N. Y., LB $149,317 (12 bidders), general constr. parking field bldg. at Short Beach, Jones Beach State Park, Wantagh, Nassau Co., NEW YORK, Long Island State Park Comn., Belmont Lake State Park, Babylon, N. Y. Bids Oct. 14. CD 9/23.

▲ **Vanguard Constr. Co.**, 360 Lexington Ave., New York, N. Y., CA $1,669,146, Contr. 1, general constr. sewage treatment plant, BINGHAMTON, N. Y. City, Bd. Contract & Supply, Council Chambers, City Hall, Binghamton, N. Y. Bids Oct. 1. CD 9/26.

**Laurel Hill Constructors, Inc.**, Geo. Brewster, pres., 275 W. Fort Lee Rd., Bogota, N. J., LB $750,000 (2 bidders) leveling Laurel Hill from 200 ft. to 10 ft. above ground level Laurel Hill section of Jersey City, Bayonne and Hoboken, JERSEY CITY, N. J. Bd. Freeholders Hudson Co., Courthouse, Jersey City, N. J. Harry Thourot, Courthouse, Jersey City, N. J., engr.

† **Wingate Constr. Co.**, 34 So. 17th St., Phila., Pa., LB $189,506 (20 bidders), exten. storm sewerage sys. Washington Hall to Hudson River, United States Military Academy, ENG-30-075-59-1, WEST POINT, N. Y. U. S. Eng., 111 E. 16th St., New York 3, N. Y. Bids Oct. 16. CD 9/16.

**Nickles Bros., Inc.**, 4716 Baltimore Ave., Hyattsville, Md., LB $263,458, Contr. 8-W, 11,000 ft. 24 in. c.i. water mains, etc., near ELLICOTT CITY, MD. Howard Co. Metropolitan Comn., 27 Church Rd., Ellicott City, Md. Bids Oct. 2. CD 9/25;
**W. F. Wilson & Sons, Inc.**, Brookeville, Md., LB $208,838, Contr. 9-W, 32,000 ft. 6- to 12-in. c.i. water mains, etc., (Ellicott City, Md.).

**Curtin & Johnson**, 1116 W St. N.E., Wash., D. C., LB $419,188 (4 bidders) resurf. Eastern Ave. N. E. from Rhode Island Ave. to Randolph St. and paving roadway and constr. sewer and drainage structures on Eastern Ave. N. E. from Randolph St. to Michigan Ave., etc. Fed. Aid Proj. DS-73-(1) WASH., D. C. D. C. Govt., Dpt. Hys. & Traffic, 299 Pa. Ave. N. W., Wash., D. C. Bids Sept. 15. CD 10/6.

### BUILDINGS—LB & CA

**Stanley Kahn**, c/o V. C. Passela, 663 Farmingdale Rd., Babylon, N. Y., Owner Builds, $600,000, 40 HOUSES, Elmwood Rd., BABYLON, N. Y.

▲ **Sam Audia**, c/o G. K. Lust Real Estate, 935 No. Broadway, Massapequa, N. Y., Owner Builds, $2,000,000, 200 HOUSES, Carleton Ave. and Ackerman St., CENTRAL ISLIP, N. Y.

▲ **Heatherwood Homes**, c/o Harry Klein Realty, 26 W. Jericho Turnpike, Huntington Station, N. Y., Owner Builds, $2,250,000, 150 HOUSES, Wolf Hill Rd., HUNTINGTON, N. Y.

▲ **Princeton Park Homes**, c/o Traynor & Oestreich, Ruth Dr., Commack, N. Y., Owner Builds, $4,000,000, 200 HOUSES, Simpson St., JERICHO, N. Y.

† **Norla General Contractors Corp.**, 3330 Park Ave., Wantagh, N. Y., LB $939,812, concrete, steel fdn., concrete, masonry, brick and aluminum facing POST OFFICE and ANNEX, 33rd St. and 8th Ave., and POST OFFICE, Morgan Annex, 29th St. and 9th Ave., NEW YORK, N. Y. General Service Admin., Business Service Center, Region 2, 250 Hudson St., New York 13, N. Y. Bids Oct. 17. CD 10/2.

**Iorio Constr. Co.**, 22 West 1st St., Mt. Vernon, N. Y., LB $450,000, SCHOOL and CONVENT for St. Ann's Church, on Midland Ave., YONKERS, N. Y. Archdiocesan Bldg. Comn., 451 Madison Ave., New York 22, N. Y. Bids Sept. 23. CD 9/18.

▲ **Thomas E. Nora**, P. O. Box 265, New Brunswick, N. J., LB $1,500,000, 27 store SHOPPING CENTER, and 300-car parking area, HADDONFIELD, N. J. Food Fair Properties, 99 Park Ave., New York, N. Y. Bids Sept. 10. CD 8/28.

▲ **Green Hill Manor Homes**, 820 Cottman St., Phila., Pa. Separate Contracts. $3,500,000. RESIDENTIAL DEVELOPMENT (191) Twining Rd., etc., ORELAND, PA.

▲ **George K. Heebner, Inc.**, 1231 Vine St., Phila., Pa., CA $1,000,000 LABORATORY and OFFICE BLDG., PHILA., PA. Perfect Photo, Inc., 4747 N. Broad St., Phila., Pa. Rosengarten & Kraemer, 10 S. 18th St., Phila., Pa., archts.-engrs.

**Roanoke Constr. Co.**, 45 Maplewood Ave., Phila., Pa., CA $570,000, STORE and OFFICE BLDG., 166 E. Chelten Ave., PHILA., PA. William Steumfig Assocs., 45 Maplewood Ave. Phila., Pa. Bids Sept. 19. CD 9/18.

▲ **Meadowbrook Acres, Inc.**, 102 Bryn Mawr Ave., Bala Cynwyd, Pa. Separate Contracts. $1,300,000, 8 APARTMENT BUILDINGS, 128 units, streets and sewers, QUAKERTOWN, PA. Paul Kopl, 1321 Arch St., Phila., Pa., archt.-engr.

**Beaver Valley Homes, Inc.**, c/o Jack Blumenfeld, 1901 Walnut St., Phila., Pa., Separate Contracts. $350,000, RESIDENTIAL DEVELOPMENT, Warren Ave. etc. WILLISTOWN, PA.

**Joseph B. Bahen Constr. Co.**, 511 Harvard St. N. W., Wash., D. C. CA Est. $700,000 HEADQUARTERS BLDG. at "H" St. and Jackson Pl., WASH., D. C. National Grange, 744 Jackson Pl. N. W., Wash., D. C. Whitman, Requardt & Assocs., 1204 St. Paul St., Baltimore, Md., and Vogt, Ivers, Seaman & Assocs., 1025 Connecticut Ave. N. W., Wash., D. C., engrs. Awarded Oct. 14. CD 9/18.

**M. Cladny Constr. Co.**, 635 F St. N. W., Wash., D. C. CA Est. $400,000, 1 story, brick, concrete STORAGE WAREHOUSE and PUBLIC GARAGE, 129 Taylor St. N. W., WASH., D. C. Penn Bowling Recreation Center, Inc., 1420 New York Ave. N. W., Wash., D. C. Edmund W. Dreyfuss, 1019 15th St. N. W., Wash., D. C.

**United Warehouse "E" Inc.**, 931 Investment Bldg., Wash., D. C. Owner Builds. $500,000, constr. 1 story, brick, cinder block WAREHOUSE, 3300 to 3340 V St. N. E., WASH., D. C. Howard L. Keller, 8035 13 St., Silver Spring, Md., engr.

## SOUTH

### HEAVY CONSTRUCTION—BA

▲ **S. C., Georgetown**—OCEAN TERMINAL IMPRVS.—BA 11/5—S. C. State Ports Auth., 1 Vendue Range, Charleston, transit wharf and warehouse for Ocean Terminal $1,500,000. Extended date. CD 9/29.

† **Florida**—BA 11/18—U. S. Eng., 575 Riverside Ave., Jacksonville, imprv. Canal 1, Section 1 and constr. Structures 70 and 71, excavation, Central and Southern Florida Flood Control Proj. CIVENG-08-123-59-24B. CD 10/14.

▲† **Ala., Fort Rucker**—HOUSING—BA On Or About 11/18—U. S. Eng., 2301 Grant St., Mobile, Ala., constr. Capehart Family Housing, Phase III, 400 units at Fort Rucker, ENG-01-076-59-35. CD 9/30.

▲† **S. C., Charleston**—POLARIS MISSILE ASSEMBLY FACILITY—BA 12/2—Dist. P. Wks. Office, Bldg. 13, U. S. Naval Base, Charleston, polaris missile assembly facility, Naval Ammunition Depot, NBy 19955, Spec. 19955/58. Over $5,000,000. Plans deposit $325. CD 7/30.

### PROJECTS COVERED

#### By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $44,000; other public works $73,000; industrial buildings $93,000; other buildings $344,000. Also Foreign projects of $100,000 and more in size of Interest to American contractors.

#### By Regions & Classes of Construction

(In order of Listing)

BIDS ASKED
LOW BIDDERS
CONTRACTS AWARDED

New England
Middle Atlantic
South
Middle West
West of Mississippi
Far West

PROPOSED WORK

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Public Buildings
Mass Housing
Commercial Buildings
Industrial Buildings
Unclassified

#### In These Stages

PROPOSED WORK: Before and including appointment of engineers or architects.

BIDS ASKED: BA (new announcements only). For full calendar, see also preceding issues.

SOON LETS CONTRACT: SLC

LOW BIDDERS: LB On jobs below $500,000 In value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: CA Except awards to low bidders previously reported in low bidder stage.

CD dates shown are of Construction Daily Issue in which last previous report was published.

OWNERS, ENGINEERS, ARCHITECTS, CONTRACTORS are invited to report their new jobs for listing in these reports when they meet or exceed the size minimums shown above. Address these news releases to J. A. Mahoney, REPORTS, ENGINEERING NEWS-RECORD, 330 W. 42 St., New York 36, N. Y.

#### Symbols and Abbreviations Include:

† Federal Government
▲ Project of $1,000,000 or over
ENR Engineering News-Record
CD Construction Daily

For additional reports see Construction Daily.

## BUILDINGS—SLC

**Ga., Macon**—WAREHOUSE—Bibb Grocery Co., 146 Albert, soon lets contract, warehouse addn. N. J. Pascullis, 174 New St., archt.

**Ky., Louisville**—WAREHOUSE, etc.—Ky. Rural Electric Corp., 1430 Mellwood Ave., soon lets contract 1 story, concrete slab, brick, steel frame built up roof 133x500 ft. warehouse, office and shop bldg., Bishop's Lane, near here. Over $500,000. Ingram & Ingram, 822 Cherokee Rd., Zone 4, archts. Ed. W. Neel, 2806 Woodmont Dr., engr. CD 6/20.

## HEAVY CONSTRUCTION—LB & CA

▲ **SOUTH CAROLINA**—State Hy. Dpt., Hotel Columbia, Columbia, S. C. Bids opened 10/14,

S. C.—**Claussen-Lawrence Constr. Co.,** 1394 Gwinnett St., Augusta, Ga. LB **$1,075,673** (12 bidders) grade, etc. 9.000 mi. Int. Rte 26. S. C. Dockets Nos. 9.301 & 32.411. F.A. Proj. No. I-26-3 (4) Calhoun and Lexington Counties;

S. C.—**Ballenger Paving Co.,** Paris, S. C. LB **$1,285,539** (5 bidders) concrete paving, etc. 11.390 mi. Int. Rte 85. S. C. Dockets Nos. 11.344.1 & 42.464.1. F.A. Proj. No. I-85-3 (13) (I-301-2 (8) Cherokee and Spartanburg Counties;

S. C.—**Cherokee, Inc.,** Sumter Hy., Columbia, S. C. LB **$728,797** (8 bidders) select material etc. 9.353 mi. Int. Rte 26. S. C. Dockets Nos. 32.386.1, 32.398.1, 40.444.1 and 40.467.1. F.A. Projs. Nos. I-IN-26-2 (2), I-IN-126-2 (34) I-In-26-2 (4) & I-In-26-3 (1) Lexington and Richardson Counties;

S. C.—**Kraft & Newell,** Forence, S. C. LB **$183,680** grade, etc. 17.398 mi. Rds S-18, S-35, S-43, S-263, S-275 & S-312. S. C. Docket No. 35.341 F.A. Projs. Nos. S-1286 (1) S-1285 (1) S-1288 (1) S-1284 (1) & S-1287 (1) Marlboro Co. CD 10/6.

**GEORGIA**—Georgia Rural Road Auth., General Office, No. 2 Capitol Sq. Atlanta,
cancelled bids to have been opened Oct. 10, 4.376 mi. paving and 1 bridge on Reidsville-State Rte. 292 beginning at State Rte. 292 approx. 2 mi. west of Collins and extending south toward Reidsville, Proj. No. RR-PR 2581 (1) Sect. 2 CT 2, Tattnall Co. CD 10/1.

▲† **Western Contg. Corp.,** 400 Benson Bldg., Sioux City, Iowa, CA **$1,922,400** enlarging channel of Intracoastal Waterway, Waboasso to Ft. Pierce, Intracoastal Waterway, Jacksonville to Miami, CIVENG-08-123-58-12. FLORIDA. U. S. Eng., Box 4970, Jacksonville, Fla. Bids Sept. 23, CD 9/30.

† **U. S. Eng.,** P. O. Box 1169, Mobile, Ala., cancelled bids to have been opened Sept. 29, constr. waste fuel incinerator, ENG-01-076-59-278, EGLIN AIR FORCE BASE, FLA. CD 9/24.

**Richardson Constr. Co.,** 645 N. W. 7th Ave., Fort Lauderdale, Fla., CA **$796,882** Fresh Water Treatment Plant, Proj. No. 630, FORT LAUDERDALE, FLA. City, City Hall, Fort Lauderdale, Fla. Bids Sent. 29. CD 10/13.

**W. R. Mitchell,** Box 3175, Pritchard, Ala., LB **$175,361** water line extension, ABERDEEN, MISS. City, City Hall, Aberdeen, Miss. Bids Oct. 3. CD 9/17.

**Cook Constr. Co.,** Hy. 80 West, Jackson, Miss., CA **$176,720** high level earth embankments for access roads, railroad area and storage area Natchez Port, Adams Co., NATCHEZ, MISS. Bd. Supervs. Adams Co., Court House, Natchez, Miss. Bids Sept. 29.

▲ **LOUISIANA**—Dpt. Hys., Hy. Office Bldg., Baton Rouge,

La.—**Reynolds & Williams,** Commonwealth National Bank Bldg. and Box 286, Shreveport, La., CA **$2,484,578,** c. conc. pavement grade separation structures 4.999 mi. Choudrant-Calhoun Hy. Rte. L-20. SP No. 740-00-26 FAP No. I-20-3(6)98, Ouachita Parish;

La.—**Campbell Constr. Co., Inc.,** foot Milam and Box 1758, Shreveport, La., CA **$1,002,906,** wid'n. existing concrete pavement, surf. with bit. hot mix 13.282 mi. Kaplan-Abbeville Hy., Rte. LA 14. SP Nos. 55-04-08 & 55-05-12 FASP Nos. S-102(5) S-197(3). Vermillion Parish. Bids Sept. 24, awarded Oct. 7. CD 10/1, under LB.

**W. L. Hailey Co.,** 314-42 St., Nashville, Tenn., CA **$938,500,** Contr. No. 314, Southwestern Pumping Station, Can Run Rd., LOUISVILLE, KY. Metropolitan Sewer Dist., 412 W. Market St., Louisville 2, Ky. Bids Sept. 26, awarded Oct. 13. CD 10/1, under LB.

## BUILDINGS—LB & CA

▲ **Cecil Morton & W. B. Quick,** Jacksonville, N. C. Separate Contracts **$1,500,000,** 200 RESIDENCES, Forest Hills subdivision, JACKSONVILLE, N. C.

▲ **General Constr. Co.,** 1815 Blanding St., Columbia, S. C. CA **$1,034,920,** LIBRARY-MUSEUM BUILDING CHARLESTON, S. C. The Citadel, Hampton Park, Charleston, S. C. Bids Sept. 25. CD 9/30, under LB.

**Sam N. Hodges, Jr. & Co.,** 267 E. Paces Ferry Rd. N. E., Atlanta, Ga., CA **$250,000,** 85,000 sq. ft. WAREHOUSE-OFFICE, ATLANTA, GA. Karo & Upright Co., c/o contractor.

**Donald Boland,** c/o Broleman & Rapp, archts, 1216 E. Colonial Dr., Orlando, Fla., Owner builds, **$450,000** 37 RESIDENCES, INDIAN RIVER CITY, FLA.,

**Hampton Homes,** c/o Arthur W. White, archt., Church and Main Bldg., Orlando, Fla., Owner Builds, **$600,000** 56 RESIDENCES, MERRITT ISLAND, FLA.

**Chas. E. Storey,** Benton, Ky., CA **$542,401** brick, rein.-con. Lone Oak ELEMENTARY SCHOOL, near PADUCAH, KY. McCracken Co. Fiscal Court, Paducah, Ky. Lee Potter Smith & Assoc., 2224 Broadway, Paducah, Ky. archts. Bids Sept. 30. CD 11/15/51.

**O'Brien & Padgett,** 283 Scott St., Memphis, Tenn. CA **$420,977,** 2 story Carver SCHOOL addn., MEMPHIS, TENN, Memphis Bd. Educ., 317 Poplar St., Memphis, Tenn. Awarded Oct. 10. CD 1/31/52.

# MIDDLE WEST

## HEAVY CONSTRUCTION—BA

▲† **Michigan**—BA 11/12—U. S. Eng., 1101 Washington Blvd., Detroit, Mich., dredging 1,830,000 cu. yd. silt from Monroe Harbor. $1,000,000.

▲ **O., Cleveland**—BA 11/13—Comrs. Cuyahoga Co., 451 County Admin. Bldg., Zone 13, grade crossing elimination on W. 140 St. at rapid transit and N. Y. C. R.R. tracks, wid'n., resurf. W. 140 St. between Lorain Ave. and Triskey Rd., $2,145,000. Plans deposit $100. Howard, Needles, Tammen & Bergendoff, 1805 Grand St., Kansas City, Mo., engrs. CD 8/15/57.

## BUILDINGS—BA

† **Mich., Lansing**—MAINTENANCE SHOP—BA 11/4—U. S. Eng., 1101 Washington Blvd., Detroit 31, maintenance shop, incl. related work, ENG-20-06-4-59-21.

▲ **O., Columbus**—HOSPITAL—BA 11/26—Franklin Co. Hospital Comn., Court House, 9 story, 330 bed X-type Grant Hospital. $5,888,000. Louis F. Karlsberger, 24 Weber St., archt. CD 1/7.

## HEAVY CONSTRUCTION—LB & CA

**ILLINOIS**—Dpt. P. Wks. & Bldgs., Div. Hys., Centennial Bldg., Springfield,

**Orr Constr. Co.,** 27 E. 19 Place, Chicago Heights, Ill., CA **$714,567,** 4 span bridge and approach FAS 1272 over FAI Rte. 6, west of Norris, Grundy Co. CD 9/17, under LB.

**Union Contg. & Engineering Co.,** 2035 W. 43 St., Chicago, Ill., LB **$107,318,** b. conc. paving, concrete sidewalks, curbs, gutters, 1 mi. 43 St. from S. Halsted to S. State Sts., CHICAGO, ILL. City of Chicago, City Hall, Chicago, Ill. Bids Oct. 7. CD 10/2.

**Arcole Midwest Corp.,** 3225 Main St., Evanston, Ill., LB **$219,717,** b. conc. paving, concrete curbs, gutters, S. Austin Ave. from W. 65 St. to S. Archer Ave., CHICAGO, ILL. City of Chicago, City Hall, Chicago, Ill. Bids Oct. 9.

**Union Contg. & Engineering Co.,** 2035 W. 43 St., Chicago, Ill., LB **$105,971,** bit. paving on existing pavement, leveling, binder and surf. courses S. Wentworth Ave. from 73 to 47 Sts., CHICAGO, ILL. Dpt. Purchases, City of Chicago, Citp Hall, Chicago 2, Ill. Bids Oct. 14. CD 10/8.

**J. A. Ross & Co.,** 3147 N. Cicero Ave., Chicago, Ill., LB **$180,745,** b. conc. paving Addison St. and Lincoln Ave., 8,500 yd. c. conc. base, installing 3,550 lin. ft. curb and gutter, track removal (Chicago, Ill.).

## BUILDINGS—LB & CA

**F. X. Minnigan, Inc.,** 14 Bates St., Dayton, O. LB **$904,900,** (10 bidders) general contract FAMILY COURT CENTER and 60 bed DETENTION HOME near Safety Bldg., DAYTON, O. Family Court Center Bldg., Comn., c/o Comrs., Montgomery Co. Courthouse, Dayton, O. Bids Oct. 8.

▲ **Humel Constr. Co.,** 17706 Miles Ave., Cleveland 28, O. LB **$1,185,000,** est. $1,970,000 (10 bidders) general contr. JUNIOR HIGH SCHOOL, SOUTH EUCLID, O. South Euclid-Lyndhurst Bd. Educ., 4777 Farnhurst Rd., South Euclid, O. Bids Oct. 16. CD 9/22.

**Donald Norwood,** Huntington, Ind. CA general constr. 47,000 sq. ft. CHAPEL and INFIRMARY, HUNTINGTON, IND. Our Lady of Victory Missionary Sisters, Mother Cecilia, Superior General, Victory Noll, Huntington, Ind. Total est. **$750,000.** James McCarron, 401 Central Bldg., Fort Wayne, Ind., archt.;
**Albert Leyman,** Huntington, Ind. CA electrical work (Huntington, Ind.);
**Robert & Raymond Brennan,** Huntington, Ind. CA plumbing, heating, air-conditioning (Huntington, Ind.).

**Alan Constr. Co.,** 830 Skokie Ave., Northbrook, Ill. LB **$526,312,** general contract 2 story, rein.-con. brick Medill SCHOOL, CHICAGO, ILL. Bd. Educ., City of Chicago, 228 LaSalle St., Chicago, Ill. Bids Oct. 14. CD 9/18.

**J. Emil Anderson & Sons, Inc.,** 1801 Balmoral Ave., Chicago, Ill., CA **$700,000,** 66,000 sq. ft. WAREHOUSE AND OFFICE BLDG., 5724 N. Pulaski Rd., in Brynwood Plant-site Development, CHICAGO, ILL. DeLaval Separator Co., 427 W. Randolph St., Chicago, Ill.

**Chell & Anderson, Inc.,** 5425 N. Kedzie Ave., Chicago, Ill. LB **$443,900,** general contr. 2 story, brick, rein.-con. frame SCHOOL, 44th St. and Woodlawn Ave., CHICAGO, ILL. Bd. Educ., City of Chicago, 228 N. LaSalle St., Chicago, Ill. Bids Oct. 14.

▲ **George Sollitt Constr. Co.,** 109 N. Dearborn St., Chicago, Ill., CA **$1,299,957,** 10 story, bsmnt., brick, stone MEN'S DORMITORY BLDG., 55 St. and University Ave. SW corner, CHICAGO, ILL. University of Chicago, 5801 S. Ellis Ave., Chicago, Ill. CD 8/4, under LB.

**A. Z. Shmina & Sons Co.,** 6275 Schaefer Rd. and Box 4085, N.E. Sta., Dearborn, Mich., LB **$700,000** COUNTY LIBRARY HEADQUARTERS, Van Born and Venoy Rds., DETROIT, MICH. Wayne Co. Bd. Auditors, Rm. 928, City-County Bldg., Detroit, Mich. Bids Sept. 5. CD 8/14.

# WEST OF MISSISSIPPI

## HEAVY CONSTRUCTION—BA

† **Missouri**—BA 11/5—U. S. Eng., P.O. Box 97, Memphis 1, Tenn., 3,800 cu. yd. levee repairs involving 3,800 cu. yd. embankment, clearing and grubbing, etc., along Mississippi River about 1 mi. west of Stewart, Pemiscot Co., CIVENG-40-041-59-64. CD 10/20/43.

† **Colorado**—BA 12/2—Bureau Reclamation, Dpt. Interior, Grand Junction, furnishing labar and materials for Paonia Dam and relocation of State Hy., Colorado River Storage Proj., near Paonia, Gunnison Co., Spec. DC-5117, adv. ENR 10/30. CD 9/30.

## BUILDINGS—BA

▲ **Tex., Kingsville**—PLANT—BA 12/15—Humble Oil & Refining Co., 1216 Main St., Houston, (selected list of bidders) gas processing and recycling plant also some 450 mi. gas lines, one terminating near Houston, 15 mi. SW outside Kleberg Co. line. $65,000,000-$80,000,000. CD 7/24/57.

## BUILDINGS—SLC

▲ **Colo., Morrison**—TELEPHONE EXCHANGE—Mountain States Tel. & Tel. Co., 414 14th St., Denver, soon lets contract 1 story, bsmnt., 60x60 ft. Yukon Telephone Exchange Bldg., Morrison Rd. and South Kipling Sts. $2,000,000. Raymond H. Ervin & Assocs., 1500 Denver Club Bldg., Denver, archts. Phillips-Carter-Osborn, 200 Insurance Bldg., Denver engrs.

## HEAVY CONSTRUCTION—LB & CA

**MINNESOTA**—State Hy. Dpt., 1246 University Ave., St. Paul,

**J. W. Craig Co.,** 1814 N.E. California St., Minneapolis, Minn., CA **$742,367,** grade, bit. base and plant mixed bit. surf. and bridge 7.5 mi. near Johnsville, Anoka Co. Bids Aug. 22. CD 8/27, under LB.

▲ **MINNESOTA**—State Hy. Dpt., 1246 University Ave., St. Paul, Bids opened 10/17,

Minn.—**Ashbach Constr. Co.,** 1910 W. County Road C, St. Paul, Minn., LB **$4,291,889** (6 bidders), sand-grav. sub-base, crushed rock base, plant-mixed bit. surf. concrete paving bridges and utility and bldg. removal and relocation 3.4 mi. TH 55, Mendota Bridge and on TH 5 to Fort Snelling, etc. 12 projects all in one, Hennepin Co. CD 10/2, under Streets, Roads and Bridges;

Minn.—**Brown & Leguil,** Rte. 1, Mankato, Minn., LB **$1,120,353** (5 bidders), sand-grav. sub-base, grav. base, road-mixed bit, base and surf. 0.6 mi. and bridges Nos. 9403 and 9404, Blue Earth Co. CD 10/2, under Streets, Roads and Bridges;

Minn.—**Chippewa Constr. Co.,** Granite Falls, Minn., LB **$201,110** (16 bidders), sand-grav. sub-base, grav. base and road-mixed bit. surf. 10.8 mi. between jct. TH 27 and jct. TH 55 in Elbow Lake, Grant Co.;

Minn.—**J. Brown Constr. Co.,** Rte., Mankato, Minn., LB **$527,716** (6 bidders), sand-grav. sub-base, grav. base, road mixed bit. base and plant-mixed bit. surf. 14.7 mi. near Wilder, Jackson Co.;

Minn.—**St. Paul Dredging Co.,** 1397 Laurel Ave., St. Paul, Minn., LB **$466,189** (6 bidders), grav. wearing course 18 mi. between Thief River Falls in Pennington Co. and New Folden in Marshall Co., Marshall and Pennington Counties,

Minn.—**H. Shulz,** Lakefield, Minn., LB **$164,200** (13 bidders), sand-grav. sub-base grav. base and road mixed bit. surf. 10.4 mi. in and near Benson, Swift Co.;

Minn.—**O. S. Swanson Constr. Co.,** 550 South Snelling Ave., St. Paul, Minn., LB **$710,751** (8 bidders), concrete paving and shouldering 3.8 mi. between 4 mi. north of Rochester and West jct. TH 14, Olmsted Co. CD 10/2.

† **Base Procurement Office, 343rd Fighter Group (ADEF),** 510 Fidelity Bldg., Duluth, Minn., rejected bids Sept. 11, taxiway repair at municipal airport, Inv. No. 21-603-59-22, Proj. No. D-119-8(Base), DULUTH, MINN. CD 8/21.

▲ **McLean-Astleford,** 7701 Harriet Ave., Minneapolis, Minn., LB **$897,600** roadways and utilities, railroad track work, sewer and water supply, concrete and bit. paving, etc., for terminal, DULUTH, MINN. Seaway Port Auth. of Duluth, Alworth Bldg., Duluth, Minn. Bids Oct. 15. CD 10/8;
**Lee Electric Co.,** 3778 West Broadway, Minneapolis, Minn., LB **$221,800,** furnish, install lighting and wiring at Public Marine Terminal Site at Rice's Point (DULUTH, MINN.). CD 10/10.

**Phelps-Brake Co., Inc.,** 5440 Douglas Dr. North, Minneapolis, Minn., LB **$264,390** (7 bidders) sewage treatment plant, interceptor sewer, water service extension, etc., PINE ISLAND, MINN. Village, Village Hall, Pine Island, Minn. Bids Oct. 14. CD 9/25.

**IOWA**—State Hy. Comn., Ames, Bids opened 10/14,

Iowa—**Lee & Johnson, Inc.,** 215 Ins. Exch. Bldg., Sioux City, Iowa, LB **$129,755,** b. conc. 6.054 mi. S-707(3), Humboldt Co.; LB **$133,177,** b. conc. 6.059 mi., B-59-1, Humboldt and Webster Counties; LB **$100,257,** b. conc. 4.668 mi. B-59-2, Humboldt and Pocahontas Counties;

Iowa—**Concrete Materials & Constr. Co.,** 4096 First Ave. N.E., Cedar Rapids, Iowa, LB **$76,469,** b. conc. and c. conc. 0.29 mi., F-1004(2), Benton Co.; LB **$250,325,** b. conc. 2.729 mi., DF-948(3), Benton Co.;

Iowa—**Mickle & Ross Constr. Co.,** Box 541, Newton, Iowa, LB **$351,689,** grading 3.221 mi., I-IG-80-2(6) 96 (I-IG-01-2(6)), Adair, Dallas and Madison Counties; LB **$311,160,** grading 0.662 mi., I-IG-35-3(2)77 (I-IG-02-3(2)), Polk Co.;

Iowa—**Irving F. Jensen,** 220 Hawkeye Dr., Sioux City, Iowa, LB **$126,424,** c. conc. 0.488 mi., FN-426, Monona Co.;

Iowa—**Hallett Constr. Co.,** Crosby, Minn., LB **$2,960,414,** c. conc. 10.917 mi., I-80-8(6) 283, Scott Co.;

Iowa—**Central Eng. Co.,** Box 838, Davenport, Iowa, LB **$2,345,949,** c. conc. 6.552 mi., I-80-8(71 294, Scott Co.;

Iowa—**Weaver Constr. Co.**, Iowa Falls, Iowa, LB $165,969, roiled stone base and bit. surf. 9.12 mi., DS-2144(7), Cedar Co.;
Iowa—**R. S. Krage Co.**, Box 2038 N. Side Sta., Sioux City, Iowa, LB $357,930, grading 6.668 mi., I-29-6(4)122 (I-03-6(4)), Monona Co.;
Iowa—**National Advertising Co.**, Bedford Park, Ill., LB $101,133, signing 9.228 mi., I-35-2(14)67, Polk Co.;
Iowa—**Western Contr. Corp.**, 400 Benson Bldg., Sioux City, Iowa, LB $1,939,627, grading 1.452 mi. I-IG-29-6(1)143 (I-IG-03-6(1)), Woodbury Co., all foregoing under CD 10/1;
Iowa—**Kaser Constr. Co.**, 3111 Ingersoll Ave., Des Moines, Iowa, LB $99,710, b. conc. 2.931 mi., S-1645(3), Keokuk and Washington Counties. CD 10/6.

▲ **IOWA**—State Hy. Comn., Ames, Bids opened 10/14,
Iowa—**Hanson Constr. Co.**, 106 W. 17 St., Washington, Iowa, LB $135,692, bridges, culverts, F-44(11), Cass Co.; LB $87,348, bridges, culverts, S-268(4), Decatur Co.; LB $84,316, bridges, culverts, S-815(3), Decatur Co.; LB $80,873, bridges, culverts, S-1910(2), Decatur Co.;
Iowa—**Hobe Eng. Co.**, 2121 E. 4 St., Sioux City, Iowa, LB $106,775, bridges, culverts, FN-426, Monona Co.; LB $350,304, bridges, culverts, I-IG-29-6(1)143 (I-IG-03-6(1)), Group 3, Woodbury Co.; LB $120,191, bridges, culverts, I-IG-29-6(1) 143 (I-IG-03-6(1)), Group 5, Woodbury Co.;
Iowa—**Brogan Constr. Co.**, 321 Locust St., Des Moines, Iowa, LB $174,495, bridges, culverts, I-IG-80-2(6)96 (I-IG-80-2(6)), Group 8, Adair, Dallas and Madison Counties; LB $162,760, bridges, culverts, I-IG-29-6(1)143 (I-IG-03-6(1)), Group 4, Woodbury Co.;
Iowa—**Carpenter & Kraft Constr. Co.**, 503 South Vine St., West Union, Iowa, LB $101,026, bridges, culverts, I-IG-80-2(6)96 (I-IG-80-2(6)), Group 2, Adair, Dallas and Madison Counties;
Iowa—**A. Olson Constr. Co.**, 1225 Commercial St., Waterloo, Iowa, LB $107,807, bridges, culverts, I-IG-80-2(6)96 (I-IG-80-2(6)), Group 7, Adair, Dallas and Madison Counties;
Iowa—**Cramer & Bayse**, Newell, Iowa, LB $115,893, bridges, culverts, I-IG-35-3 (2) 77 (I-IG-02-3 (2)), Group 2, Polk Co.;
Iowa—**Torvick & Sons**, Decorah, Iowa, LB $169,959, bridges, culverts, I-IG-35-3 (2) 77 (I-IG-02-3 (2)), Group 3, Polk Co.;
Iowa—**Yegge & Blosser**, 422 South Story St., Boone, Iowa, LB $280,667, bridges, culverts, S-903 (1), Polk Co.;
Iowa—**Weldon Bros.**, Iowa Falls, Iowa, LB $542,077, UG-13 (8), Webster Co.;
Iowa—**C. F. Lytle Co.**, 250 Ins. Exch. Bldg., Sioux City, Iowa, LB $628,693, bridges, culverts, I-IG-29-6 (1) 143 (I-IG-03-6 (1)), Group 2, Woodbury Co. CD 10/1.

▲† **Wunderlich Constr. Co.**, 2555 Pulgas Ave., East Palo Alto, Calif. CA $7,351,5557, constr. Foss Dam, Washita Basin Proj., Spec. No. DC-5100, OKLAHOMA. Bureau Reclamation, Amarillo Dist., P. O. Box 1609, Amarillo, Tex. CD 10/6, under LB.

**Brodie Constr. Co.**, 764 N. Grand St., Amarillo, Tex. CA Est. $500,000, 56 mi. 20 in. natural gas pipe line from Laverne, Okla. to Meade, Kan., OKLAHOMA-KANSAS. Michigan-Wisconsin Pipe Line Co., 500 Griswold-Postal Zone, Detroit 26, Mich. Awarded Oct. 8.

▲† **King Constr. & Assocs.**, 2525 Maple St., Texarkana, Tex. LB $933,973, est. $963,964, Sched. 1 (Mineral Wells), LB $1,022,472, est. $1,048,963, Sched. 2 (Denton) LB $1,081,528, est. $1,178,290, Sched. 3 Terrell) LB $1,105,019, est. $1,202,174, Sched. 4 (Alvarado) Combination Bid $4,142,993, for Nike Hercules Facilities in Alvarado, Denton, Mineral Wells and Terrell Sites, Dallas-Fort Worth Defense Area, ENG-41-443-59-5, TEXAS. U. S. Eng., P.O. Box 1600, Fort Worth, Tex. Bids Oct. 16. CD 9/24.

**TEXAS**—State Hy. Comn., Austin, Bids opened 10/15,
Tex.—**Thos. J. Evans, Jr. & M. M. Pettyjohn**, Box 748, South Houston, Tex. LB $275,743, bridge bents, Hy. IH 45, Proj. I 45-1 (17) 49, Harris Co. CD 9/25;
Tex.—**R. B. Butler, Inc.**, Box 471, Bryan, Tex. LB $117,618, structure and wide structures 0.1 mi. Hy. St. 135 and 259, Proj. C. 378-3-7 & C. 545-2 & 4-8 & 7, Smith, Rusk and Gregg Counties. CD 10/2.

▲ **TEXAS**—State Hy. Comn., Austin, Bids opened 10/15,
Tex.—**Century Constr. Co.**, Box 5175, Houston, Tex. LB $610,255, grade, etc. 6.939 mi. Hy. US 290, Proj. U 535 (9), Harris Co., CD 9/25; LB $166,431, base and surf. 9.1 mi. Hy. FM 2246, Proj. R. 2120-1-2, Jasper Co. CD 10/2;
Tex.—**Cage Bros.**, 6959 San Pedro St., San Antonio, Tex. LB $80,802, grade, etc., Proj. MC8-E-9, Taylor Co., CD 10/3; LB $915,931, wid'n. pavement, etc., 27.453 mi. Hy. US 281. Proj. DF 2 (5), DF 429 (23), etc., Brooks and Hidalgo Counties, CD 9/25;
Tex.—**Public Constr. Co.**, Box 380, Denton, Tex. LB $250,424, b. conc. 16.214 mi. Hy. US 59, Proj. C 62-5, 6&7-26&22&25, Marion and Harrison Counties;
Tex.—**W. Paul Carlisle & M. E. Oden**, Box 12116, Dallas, Tex. LB $337,815, grade, etc. 3.645 mi. Hy. Loop 288, Leng., Proj. S 2316 (1) & SG 2316 (2), Denton Co.;
Tex.—**Ivan Dement, Inc.**, Box 1787, Amarillo, Tex. LB $562,280, grade, etc. 14.293 mi. Hy. SH 152 & FM 2391, Proj. S 661 (3) & S 2324 (1) Gray and Roberts Counties;
Tex.—**Fred Hall & Son**, Box 488, Valley Mills, Tex. LB $238,024, grade, etc. 8.749 mi. Hy. SH 171, Proj. US 59. Proj. C/89-8-22, Wharton Co.;
Tex.—**Crea Bros.**, Rte. 3, Box 213-C, San Antonio, Tex. LB $121,234, grade, etc., 5.667 mi. Hy. FM 462, Proj. R 848-1-7, Medina Co.;
Tex.—**Marvin Brown Contr. Co.**, 4425 DuPont St., Houston, Tex. LB $115,483. grade, etc. 0.778 mi. Hy. US 59. Proj. C/89-8-22, Wahrton Co.;
Tex.—**J. M. Dellinger, Inc.**, Box 4227, Corpus Christi, Tex. LB $389,789, lime stabilized flex. base, etc. 13.005 mi. Hy. US 59. Proj. F 551 (13) Goliad Co.;
Tex.—**O. W. Howard & J. C. McLaughlin**, Madisonville, Tex. LB $273,795, grade, etc. 9.978 mi. Hy. FM 1375, Proj. TFHP 29 A, Walker and Montgomery Counties, all foregoing CD 10/2;
Tex.—**R. B. Butler, Inc.**, Box 471, Bryan, Tex. LB $1,176,516, grade, etc. 5.478 mi. Hy. ST 71 and 95, Proj. F 283 (5) & S 198 (3) Bastrop Co.;
Tex.—**Trotti & Thompson, Inc.**, Box 70, Beaumont, Tex. LB $934,382, grade, etc. 1.981 mi. Hy. Loop 251, Proj. U. 1043 (6), Jefferson Co.;
Tex.—**Austin Bridge Co.**, 1000 Singleton St., Dallas, and Worth Constr. Co., 5549 James Ave., Fort Worth, Tex. LB $1,995,315, grade, etc. 7.407 mi. Hy. IH 30, Proj. I 30-2 (7) 57, Hopkins Co.;
Tex.—**Collins Constr. Co. of Texas**, P.O. Box 1192, Austin, Tex. LB $621,007, grade, etc. 4.522 mi. Hy. Loop 293, Proj. U. 1115 (1) Travis Co.;
Tex.—**Gilvin-Terrill, Inc.**, Box 2268, Amarillo, Tex. LB $617,577, grade, etc. 14.943 mi. Hy. US 87, Proj. F 546 (27) Swisher Co.;
Tex.—**Flenniken Constr. Co.**, Box 6857, Dallas, Tex. LB $496,851, grade, etc. 8.065 mi. Hy. US 271, Proj. F 674 (9) Lamar Co.;
Tex.—**R. N. Adams**, Box 581, Kaufman, Tex. LB $273,443, grade, etc. 5.183 mi. Hy. RM 2475, Proj. S 2224 (1) Wise Co.;
Tex.—**Strain Bros., Inc.**, Box 1631, San Angelo, Tex. LB $207,651, blading, b. conc. 23.614 mi. Hy. US 84. and Loop 46, Proj. F 635 (7), Garza Co.;
Tex.—**Ned B. Hoffman**, 617 Fort Worth Club Bldg., Fort Worth, Tex. LB $289,706, grade, etc. 6.704 mi. Hy. US 281. Proj. F. 743 (4) Archer Co.;
Tex.—**Henry L. Stafford**, Box 1047, Lubbock, Tex. LB $250,495, grade, etc. 13.018 mi. Hy. US 380, Proj. F. 1022 (8) Yoakum Co.;
Tex.—**A. L. Sheppard**, Box 1871, Vernon, Tex. LB $173,232, grade, etc. 8.091 mi. Hy. FM 193. Proj. R 950-5&2-3&5, Dickens and King Counties;
Tex.—**Perry Constr. Co.**, 501 Ins. Bldg., San Antonio, Tex. LB $149,988, grade, etc. 7.380 mi. Hy. FM 448, Proj. R 334-7-1, Fayette and Lee Counties;
Tex.—**Austin Contg. Co.**, Box 1590, Dallas, Tex. LB $118,284, grade, etc. 5.74 mi. Hy. FM 917 Proj. S 1347 (2), Johnson and Tarrant Counties;
Tex.—**Foley & Williams Constr. & J. C. McLaughlin**, 243 Owen Bldg., Tyler, Tex. LB $213,172, grade, etc. 7.907 mi. Hy. FM 130, Proj. R 1573-1-3. Cass Co., all foregoing CD 9/25.

▲ **George Constr. Co.**, 3816 Fannin St., Houston, Tex. CA $1,336,222, Alt. 2. Memorial Dr. Extension and Bridge Proj., HOUSTON, TEX. City, City Hall, Houston, Tex. Bids Oct. 8. CD 10/15, under LB.

**Cullum Constr. Co., Inc.**, Fidelity Union Life Bldg., Dallas, Tex. CA $203,181, Alt. Bid, sanitary sewerage sys. lines, SEAGOVILLE, TEX. City, City Hall, Seagoville, Tex. Bid Oct. 7. CD 10/9.

† **Theo. Wood Constr. Co.**, 1391 W. 3300 South, Salt Lake City, Utah, LB (1) $344,468 (2) $358,656 (3) $388,120 (1) 6 ft. 3 in. diam. (2) 6 ft. in. diam. or (3) 7 ft. diam., Southside tunnel, with alternate schedules for tunnels, Spec. DC 5104, Collbran Proj., COLORADO. Bureau Reclamation, Dpt. Interior, Grand Junction, Colo. Bids Oct. 7. CD 8/29.

**Kendall Electric Co.**, 134 N. 5th, Grand Junction, Colo. LB $349,764, sub-station, Durango; LB $337,707 sub-station, Montrose, COLORADO. Colorado-Ute Electric Assocs., Keller Bldg., Montrose, Colo. Larmore, Douglass & Popham, 332 S. Michigan, Chicago, Ill., engrs. CD 6/17/55.

▲ **COLORADO**—State Hy. Dpt., 4201 East Arkansas, Denver,
Colo.—**C. L. Hubner Co.**, 4200 East Jeweel, Denver, Colo., CA $881,613, est. $962,000, grading, structures, 8.01 mi. State Hy. No. 185, Colo. Proj. No. 1-25-3 (1) 235. Weld Co.;
Colo.—**Gardner Constr. Co.**, Glenwood Springs, Colo., CA $285,800, est. $296,000 stabilization and asph. surf. 11.0087 mi. located on State Hy. No. 15, Saguache Co. Bids Oct. 14. CD 10/3.

▲ **COLORADO**—State Hy. Dpt., 4201 East Arkansas, Denver,
Colo.—**Harrison Engineering & Constr. Co.**, 3706 Broadway, Kansas City, Mo., CA $603,796, est. $610,000, grading, structures, and concrete paving, 6.705 mi. Colo. Proj. No. I-80S-1(12)4, Weld Co.;
Colo.—**Carl V. Hill**, Greeley, Colo., CA $427,484, est. $414,000, plant mixed asph. surf. 7.699 mi. Colo. Proj. No. F 005-2(16) Routt Co. Bids Oct. 16. CD 10/7.

▲ **Lock Joint Pipe Co.**, Cooper Bldg., Denver, Colo., LB $344,000, est. $700,000 low pressure Conduit No. 28 for furnishing 16,000 ft. 84 in. diam. steel or concrete pipe from Hillcrest north on Monaco, DENVER, COLO. Bd. Water Comrs., 140 West Colfax, Denver, Colo. Bids Oct. 16;
**Thompson Pipe & Steel Co.**, 3001 Larimer, Denver, Colo., LB $663,000 high pressure Conduit No. 28, (Denver, Colo.). CD 10/15.

## BUILDINGS—LB & CA

**John Larson Co.**, Bismarck, N.D., LB $813,000 (9 bidders); FIELD HOUSE, AUDITORIUM-STADIUM and PHYSICAL EDUCATION BLDG. at Moorhead State College, MOORHEAD, MINN. State Dpt. Admin., 19 State Capitol, St. Paul, Minn. Bids Oct. 14. CD 9/17.

▲ **Klinger Constr. Co.**, 2015 7 St., Sioux City, Iowa, CA $1,740,639, general contract CENTRAL OFFICES, DORMITORIES, etc., OTTUMWA, IOWA. Ottumwa Heights College, Sisters of the Humility of Mary, Ottumwa, Iowa. Bids Sept. 19. CD 9/16;
**Blake Plumbing**, Box 226, Agency, Iowa, CA $554,975, mechanical contract, (Ottumwa, Iowa).

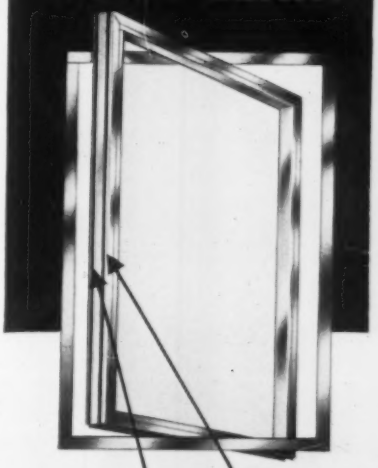
**Swan Constr. Co.**, 8130 Valcour Dr., Affton 23, Mo., LB $387,000 (3 bidders), GYMNASIUM-AUDITORIUM (Group III Contr.) with connecting passage to Group

(Continued on page 66)

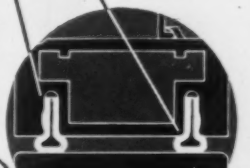

Adlake

reversible windows

WON'T LEAK!



An Adlake exclusive. Double row of rubber impregnated fabric weather stripping



Adlake

THE ADAMS & WESTLAKE CO.

Adlake—and only Adlake—is double sealed with a resilient, rubber impregnated fabric weather strip, permanently positioned in an aluminum binder. This seal has proved *impervious to the elements* in rigorous laboratory tests and in long years of service.

Cold and inclement weather will not affect this weather stripping. In all climates it keeps heated and conditioned air *IN*, water and outside air *OUT*.

That is one reason why there are nearly as many Adlake reversible aluminum windows in service as all other makes combined. Other reasons are: Adlake windows operate at a finger touch. They will never rot, rust, rattle, stick or screech. They will never need paint. Adlake guarantees satisfaction. When you install Adlake you know you are getting the best.

Let us send you the details about Adlake windows. Just write The Adams & Westlake Company, 1184 N. Michigan, Elkhart, Indiana.

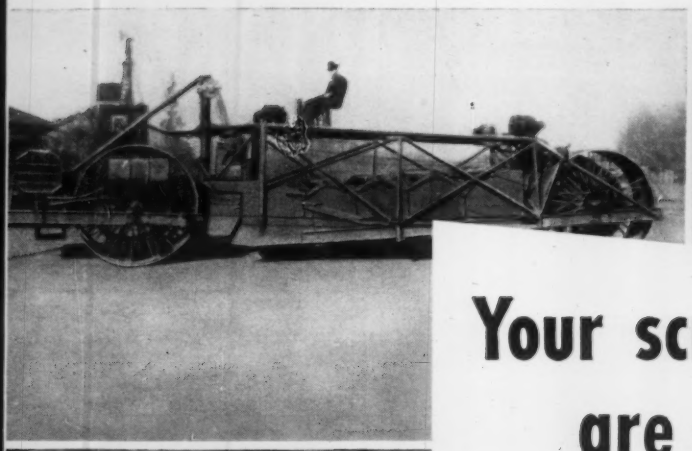
THE

Adams & Westlake

COMPANY

New York...ELKHART INDIANA...Chicago

Earthmoving's first self-propelled scraper . . . with steel wheels, 5 telescoping buckets, and 7 electric motors. This 1923 model was positive-dumping, moved 6 yd at a time, and traveled at about 1 mph.



In 1932, the first rubber-tired scraper. This model was equipped with rubber tires for better production in sand . . . worked so well it opened a new era of speed and mobility in the industry.

# Your scrapers are as OBSOLETE as these

An "all time great" in earthmoving: the Super C. World War II vintage, but hundreds are still in use. Yours can do one more big job for you: they can serve as trade-ins on new, big-production Fullpaks.

An old drawn scraper, another favorite among dirtmovers. But compare it to the self-propelled "D", that can be driven job-to-job, and do a dozen earthmoving jobs fast, economically.

EQUIPMENT doesn't have to be *worn out* to be obsolete. A rig in *perfect* condition can be as out-of-date as the four antiques shown directly above. That's because the main difference between equipment of yesterday and today is *production-ability:* being able to move *more* dirt, *faster,* at *less* cost.

A few years ago, almost any production-pace was profitable. Bid prices were about what they are now, and operating costs were much less. A slow-moving "crawler-and-pan" handled most jobs . . . and a then "modern" machine like the Super C Tournapull® was a *real* money-maker. But that was years ago!

Since then, all your costs have skyrocketed . . . but bid prices haven't. Result: there's much less net profit *per yard moved.* To keep profits *up,* nowadays, you've got to move *more* yards per rig . . . and to do so, you need all you can get in both speed and capacity.

### Trade up to profit!

That's why it will pay you to retire old veterans in your equipment spread. Though they may be "written off" your books, they may actually cost you more . . . *in production you need but don't get* . . . than it would cost you to own and operate new tools you can now "trade up to." Today's bigger, more powerful, high speed machines let you finish jobs earlier and make more profit. They also protect you with a wider margin of production capacity against delays and extra costs due to abnormally bad weather and other hidden hazards of dirtmoving.

### "Cheap" yards not always cheap!

When you're working a rig that's "depreciated to zero" on your books, your ownership-operating costs for that machine are less, of course, than they'd be with new equipment. But that doesn't mean your earnings . . . or profits . . . are better!

Time-weight-and-cost tests of Super C's against C Fullpaks® prove that the *extra* yards you move with Fullpaks more than *make up* for this lower operating-ownership cost. Here's what cold mathematics can prove on a given set of job conditions:

1) The Super C can move 105 yd an hour, with operating costs of $8.40 per hour . . . or 8¢ a yard. If the bid price is, say, 25¢ a yard, gross earnings per hour will be $26.25. Subtracting operating costs (with zero ownership cost) means the unit produces earnings of $17.85 an hour.

2) On *the same* job, a C Fullpak can move 140 yd an hour. Combined ownership and operating costs are $11.92 . . . $3.52 more than those of the Super C. Per yard cost, at 8.5¢, is 5 tenths of a cent higher. But, at the low 25¢ a yard, the Fullpak still earns $35.00 "gross" per hour, with $23.08 "net" . . . $5.23 more than the Super C. Working 1,500-hr seasons? If so, your bonus, at this rate, would be $7,845 per Fullpak!

Combine of Schultz, Lindsay, Tennefos moved as much as 75,000 yd a day on relocation of US 10 in North Dakota. Scrapers, mostly Fullpaks, including 12 "C's", 8 "B's", often loaded in just 22 seconds!

"Power-transfer differential saved the day," reports Contractor Bob Walker, Franktown, Colo. Of 3 makes of scrapers on recent "mud job" only 'Pulls could climb slippery banks on haul-route without pusher help.

# if they can't produce like this!

20 pay-yards of 3,000-lb dirt in 47 seconds was average for Hammersley Const. Co.'s B Fullpaks moving this 100' hill from path of highways 57-32 in Wisconsin. Firm also used "C's" for cutting and ditching.

"Finish a job faster, at less cost, than any other earthmover," says Wm. S. Howard, Rockford, of B and C Fullpaks he used on wet, muddy section of Illinois Toll Road. Of "B" he says: "THERE is a production scraper!"

LET us show you weighed-load production records on LeTourneau-Westinghouse Tournapulls with Fullpak scrapers. In their size ranges, the 18-yd "C" and 28-yd "B" move more pay dirt per load, more payloads per hour. Here's how they do it:

### Fullpak bowl is lower . . . wider

Proven faster-loading on jobs around the world, Fullpak scraper bowls are *low:* dirt doesn't have to be lifted as high, nor moved through already packed load. Bowls are *wide:* to provide the biggest possible doorway for dirt. Inside the bowl, earth flows easily, freely, with uniform pressure in all directions. You get fewer voids, a uniform pack, a higher heap, full corners, all in less time per load.

'Pulls* work longer, steadier . . . with fewer, lower maintenance bills. Durability features include: all-welded box beams of heat-treated steel; anti-friction bearings for all high-speed shafts; gearing completely enclosed in oil; and earthmoving's simplest, easiest-to-maintain power system: "electrics."

### Electric controls boost production

*Instant* electric response is another one of the reasons that these modern Tournapulls boost production. *In a split-second,* electric motors reach full speed, to operate apron, tailgate, bowl-hoist, and steer. "Push-button" operators learn faster, work faster.

Another L-W "exclusive" that boosts yardage is the patented power-transfer differential. When one 'Pull drive wheel starts to spin in soft going, its torque power is *automatically* and *immediately* transferred to the wheel on better footing. This differential, plus Tournapull's 90° kingpin electric steer (for "duck-walking") will *keep you moving* in *any* dirtmoving weather.

### See for yourself . . .

*Check* our claims. Ask your LeTourneau-Westinghouse Distributor to show you a working demonstration of the 'Pull of your size need. Compare what you see in that demonstration against *any* other scraper on the market. When you're ready to "talk turkey" you will find you'll get a fair deal on those Super C's or other obsolete rigs that are no longer profit-makers on today's big yardage dirt production.

*Trademark CP-1966-DC-2

**LeTOURNEAU-WESTINGHOUSE COMPANY**
Peoria, Illinois
*A Subsidiary of Westinghouse Air Brake Company*
**Where quality is a habit**

(Continued from page 63)

II Bldgs. at Missouri School for the Deaf, FULTON, MO. State Dpt. Comn. Educ., Jefferson State Office Bldg., Jefferson City, Mo. Bids Oct. 9. CD 9/23.

▲ **Kretzer-McLean Constr. Corp.**, 1844 E. Sunshine, Springfield, Mo., CA $1,600,000, 1 story, 200,000 sq. ft., brick, steel frame MECHANICAL RUBBER GOODS MANUFACTURING PLANT, Battlefield and Scenic Sts., SPRINGFIELD, MO. Dayton Rubber Co., 2342 W. Riverview, Dayton, O. Bids Sept. 12. CD 9/5.

▲ **J. F. Pritchard Co.**, 4625 Roanoke Parkway, Kansas City, Mo., CA Est. $3,500,000 natural gas absorption PLANT to make 100,000,000 cu. ft. per day, dry gas for Michigan-Wisconsin Pipe Line Co. LAVERNE, OKLA. Sun Oil Co., Petroleum Bldg., Tulsa, Okla. Awarded Oct. 13. CD 7/7.

**W. S. Moss & J. D. Leftwich**, 4514 17th St., Lubbock, Tex. CA $400,000. 4 story BANK BLDG. expansion, LUBBOCK, TEX. Lubbock National Bank, 916 Main St., Lubbock, Tex.

**Clanahan Constr. Co.**, Box 567, Tyler, Tex. LB $754,374. 54,000 sq. ft. masonry JUNIOR HIGH SCHOOL, TYLER, TEX. Tyler Ind. School Dist. Tyler, Tex. Bids Oct. 8. CD 9/18.

▲ **F. R. Orr Constr. Co.**, 4414 Vine, Denver, Colo., LB $2,603,723, est. $4,125,000 1, 2, and 3 story, 256,404 sq. ft. 65 classrooms, Thomas Jefferson JUNIOR-SENIOR HIGH SCHOOL South Holly St. and E. Mansfield Ave., DENVER, COLO., School Dist. No. 1, 414 14th St., Denver, Colo. Bids Oct. 15; **Natkin & Co.**, 2201 S. Delaware, Denver, Colo., LB $733,928 mechanical contract Thomas Jefferson Junior-Senior High School, (Denver, Colo.); **Collier Elec.**, 700 W. 13th Ave., Denver, Colo. LB $378,000 electrical contract Thomas Jefferson Junior-Senior High School (Denver, Colo.). CD 9/24.

# FAR WEST

## HEAVY CONSTRUCTION—BA

† **Calif., San Diego**—BUILDING REHABILITATION—BA 11/6—Eleventh Naval Dist., 1220 Pacific Hy., rehabilitate various bldgs. Naval Air Station, North Island, Spec. 19422-58. $250,000-$500,000. CD 9/8.

† **Wash., Moses Lake**—READINESS CREW BLDG—BA 11/25—U. S. Eng., City-County Airport, Walla Walla, 2 story, 31,000 sq. ft. rein.-con., masonry readiness crew bldg. at Larson Air Force Base, ENG.-45-164-59-6, $500,000. Plans deposit $100. CD 9/9.

## BUILDINGS—SLC

**Calif., Los Angeles**—RESIDENCE HALLS—Occidental College, 1600 Campus Rd., soon lets contract mens and women's residence halls. $880,000. Peira & Luckman, 8534 Sunset Blvd., archts. CD 10/9.

## HEAVY CONSTRUCTION—LB & CA

† **ALASKA**—Bureau P. Rds., Dpt. Commerce, Federal Bldg., Juneau,

**Green Constr. Co.**, Box 830 Fairbanks, Alaska, LB $732,914, est. $837,312 (7 bidders) clearing, grubbing, grading 3.6 mi. Glacier Hy., Tee Harbor north, Proj. AFH 2F10 G3 DF-095-4(6) Bids Oct. 14, CD 9/26.

† **ALASKA**—Bureau P. Rds., Dpt. Commerce, Federal Bldg., Juneau,

**M-B Contracting Co.**, Lloyd Bldg., Seattle, Wash. CA $270,120, est. $271,312 (6 bidders) grading, draining 8.2 mi. Kalifonsky Beach Rd., Sterling Hy. to Cook inlet, Proj. DS-0463(2) Bids Oct. 14. CD 9/26.

**UTAH**—State Rd. Comn., State Capitol, Salt Lake City, Bids opened 10/14,

**W. W. Clyde & Co.**, Box 231, Springville, Utah. LB $560,876, one 257 ft. concrete structure and one 58 ft. concrete structure Int. Rd. No. 15, FA Proj. 1-15-1 (4) 33 (I-01-1 (4) Washington Co. CD 10/6.

**NEVADA**—State Hy. Dpt., State Hy. Bldg., Carson City, rejected bids Oct. 7, constr. portion primary hy. sys. 2.67 mi. U. S. Hy. 91 between Flamingo Rd. and Oakey Blvd. in Las Vegas. Clark Co. CD 9/24.

▲† **Keystone Constr. Co. & Assocs.**, Prineville, Ore., CA $2,614,944, Prineville Dam, Crooked River Proj., Spec. DC 5047, OREGON. Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo. CD 9/2, under LB.

## BUILDINGS—LB & CA

**Cunningham Builders, Inc.**, 500 S. Walnut St., Anaheim, Calif. Owner Builds. $529,700, 56 DWELLINGS, Sandsprings Dr., Sunkist Ave. and Sandia Ave., LA PUENTE, CALIF.

▲ **Beckner Constr. Co.**, 2650 River Ave., South San Gabriel, Calif. CA $2,667,000. Patrick Henry JUNIOR HIGH SCHOOL, 17340 San Jose St., Granada Hills, LOS ANGELES, CALIF. Bd. Educ., 1425 S. San Pedro St., Los Angeles, Calif. Bids Oct. 3. CD 10/7.

**Southwest Constr. Co.**, 2918 W. Compton Blvd., Gardena, Calif. Owner Builds. $514,350, 45 stucco DWELLINGS, Tract 21566, WEST COVINA, CALIF.

**Millie & Severson**, 1485 Canal Ave., Long Beach, Calif. CA $400,000, CITY HALL, PALOS VERDES, CALIF. City, City Hall, 332 Palos Verdes Dr., West, Palos Verdes, Calif. Awarded Oct. 10.

# CANADA

## BUILDINGS—SLC

▲ **Ont., Hamilton**—OFFICE—Owner, c/o Percy C. Walton, 2 King St. W., soon lets contract 13 story, 175 ft. high, 90 x 130 ft. office bldg., 100 Main St. W. $4,000,000. John B. Parkin Assoc., 1500 Don Mills Rd., Toronto, engrs. CW 8/21.

## HEAVY CONSTRUCTION—LB & CA

▲ **ONTARIO**—Dpt. Hys., Parliament Bldgs., Toronto, Bids opened Oct. 15,

Ont.—**L. F. McLean Constr. Ltd.**, 1873 Avenue Rd., Toronto, Ont., LB $494,513, grading, culverts and granular base, 8.65 mi. Hy. 17 Trans Canada Hy. (58-254) Fort William;

Ont.—**Simkins Constr. Co. Ltd.**, Andrews and Jarvis Sts., Winnipeg, Man. LB $942,344, grading, culverts and granular base 11.1 mi. Trans Canada Hy. 17 (58-227) Kenora. CD 10/3.

▲ **Forbes & Sloat Ltd.**, 654 Union St., Fredericton N. B. LB $1,512,805 (14 bidders) constr. roads, drainage, grounds development, concrete aprons and taxiways, water and steam distributing sys., Royal Canadian Air Force Station, SUMMERSIDE, P.E.I. Defence Construction (1951) Ltd., 56 Lyon St., Ottawa, Ont. Bids Oct. 9. CD 9/18.

**Union Quarries & Paving Ltd.**, 496 2nd Ave., Quebec City, Que., CA $567,343, Queen's Wharf extens. QUEBEC CITY, QUE. Dpt. P. Wks., Hunter Bldg., Ottawa, Ont. Awarded Oct. 14. CD 9/11, under LB.

## BUILDINGS—LB & CA

▲ **Pearson Constr. Co. Ltd.**, 1019 Erin St., Winnipeg, Man., CA $1,026,000 (11 bidders) TEACHING and STAFF BLDG., WINNEPEG, MAN. United College, Portage and Balmoral Sts., Winnipeg, Man. Green, Blankstein, Russell & Assocs., 222 Osborne St. N., Winnipeg, Man., archts.

**J. S. Hewson Ltd.**, 4424 St. Catherine St. W., Montreal, Que., CA Est. $500,000 (12 bidders) 1 story, concrete frame with stone facing BRANCH BANK, Sherbrooke St. W. and Peel St., MONTREAL, QUE. Royal Bank of Canada, 360 St. James St. W., Montreal, Que. Awarded Oct. 14.

▲ **Tellier & Groleau**, 2391 Place de Vaudreuil, Three Rivers, Que. CA $1,913,413 (10 bidders) 200 DWELLINGS incl. sewers, water and road services, Vulcartier Military Camp VALCARTIER, QUE. Central Mortgage & Housing Corp., 5801 Monkland Ave., Montreal, Que. Bids Sept. 4, awarded Oct. 9. CD 8/20.

# AMERICANS ABROAD

## BUILDINGS—LB & CA

▲† **Vinnell Corp.**, 1145 Westminister Ave., Alhambra, Calif., CA $1,840,695 constr. 2 ELEMENTARY SCHOOLS, and 1 JUNIOR-SENIOR HIGH SCHOOL, SUBIC BAY, PHILIPPINE ISLANDS, Officer in Charge of Constr. Budocks Contracts, Subic Bay, Navy 3002, c/o Fleet Post Office, San Francisco, Calif.

# PROPOSED PROJECTS

## WATER SUPPLY

**Ark., Danville**—City, City Hall, water facilities (PFL-V-3-109) $205,000. Edw. G. Smith & Assocs., P. O. Box 2537, Little Rock, consult. engrs.

▲ **Calif., Hayward**—City, City Hall, voted $1,525,000 bonds Oct. 7, water sys. imprvs. CD 8/27.

**Ky., Jeffersontown**—Jeffersontown Water & Sewerage Comn., 16 in. water transmission line, $200,000. W. Howard Hopkin, 361 Breckinridge Lane, Louisville, Zone 7, engr., CD 10/6.

**Minn., Edina (P. O. Minneapolis)**—Village, Village Hall, 4 m.g. water reservoir. $200,000. Banister Eng. Co., 310 North Snelling Ave., St. Paul, consult. engr. Bids soon.

▲ **Minn., Moorhead**—City, City Hall, water treatment plant. $1,500,000. Foss & Co., 28 North Third St., consult. engrs.

**Mo., Owensville**—City, City Hall, Proj. MO. 23-P-3007, water facilities. $300,000. Russell & Axon, 408 Olive St., St. Louis, Zone 2, consult. engrs.

**N. Y., South Huntington**—Huntington Town Bd., Main St., Huntington, imprv. South Huntington Water Dist., incl. 5 mi. water mains. $875,000.

**Tex., Grapevine**—City, water filtration plant. $325,000.

**Utah, Layton**—Layton City Council, bond election Nov. 4, Hiland Oaks Water sys., incl. million gallon reservoir, laying pipe lines and constr. 2 tanks 1 to be 300,000 gal. capacity. $350,000. Templeton & Linke, 500 Dooly Bldg., Salt Lake City, consult. engrs.

## SEWERS, WASTE DISPOSAL

▲ **Calif., Hayward**—City, City Hall, voted $3,325,000 bonds Oct. 7, sanitary sewerage. sys. imprvs. incl. constr. 12 MGD secondary treatment plant and expan. present 5 MGD plant to 12 MGD. CD 8/27.

**Conn., Hartford**—Metropolitan Dist., 115 Broad St., sanitary sewer, 8,900 ft. High St., Broad St. and Naubuc Ave. areas; pumping station High St. line from High St. pumping station site to Terminus at sewer line under Glastonbury expressway, local sewers in Broad St., High St., Kohler St., Main St. Naubuc Ave., and Sunny Reach Dr., East Hartford. $394,000.

**Conn., Stamford**—City, City Hall, plans by Bogert & Childs, 145 E. 32 St., New York, N. Y., incinerator addn., Magee Ave. $200,000. Robert A. Hurley Assocs., 99 Outlook Ave., West Hartford, consult. engrs. CD 3/19.

**Ga., Thunderbolt**—Town, sanitary sewer imprvs. Over $200,000. Sewell & Maxwell, 10 Drayton St., Savannah, consult. engrs.

**Ill., Champaign**—Phinney Branch Mutual Drainage Dist., 1414 Rose St., storm water drainage imprvs., Mayfair, Greencroft, Sunset, Westview, Western Terrace, Green Meadow, and Southwood subdivisions, $368,000. Clark, Daily & Dietz, 211 N. Race St., Urbana, consult. engrs.

▲ **Ind., Indianapolis**—Bd. Sanitary Comrs., 421 N. Pennsylvania St., Warfleigh area sewer, incl. pumping station west of Meridian St. bridge over White River, $3,800,000; sewers, Washington Blvd., E. 32 St. sewer to relieve flooding in area east of Washington Blvd. between Fall Creek and 38 St., $1,350,000; sewers, Orange St. sewer to drain area on south side bounded by Cottage, Grant, Vandeman, and Prospect, $660,000. Work to start March 1959.

▲ **N. J., Pennsville**—Lower Penns Neck Twp. Sewerage Auth., sewage treatment plant, pumping stations and sanitary sewers. $3,000,000. Bids in early 1959, Bogart & Childs, 145 E. 32 St., New York, N. Y., engrs.

**N. Y., Niagara (P. O. Niagara Falls)**—Town, Town Hall, sanitary sewerage sys. and treatment plant. $1,500,000. State Aid Planning funds allotted.

**N. Y., Webb**—Town, Town Hall, intercepting sewer and sewage treatment plant. $356,000. State and planning funds allotted.

▲ **N. Y., Wheatfield**—Town, Town Hall, sanitary sewerage sys. and treatment plant. $2,000,000. State Aid Planning funds allotted.

**N. C., Raleigh**—City, City Hall, extend outfall sewers in House Creek Valley section, $200,000. John A. Edwards, 709 W. Johnson St., consult. engr.

**R. I., Woonsocket**—City, Dpt. P. Wks., City Hall, incinerator, $500,000. Metcalf & Eddy, Statler Bldg., Boston Mass., consult. engrs. Constr. 1959. CD 2/8/45.

**O., Barberton**—City, City Hall, storm sewers for East Side, $245,695. Constr. in 1959.

▲ **Vt., Rutland**—City, City Hall, sewage disposal sys. $1,125,000. Barker & Wheeler, 36 State St., Albany, N. Y., consult. engrs.

**Wash., Ridgefield**—City, City Hall, sewerage sys., $200,000. Work may start next year.

## BRIDGES

▲ **CONNECTICUT**—State Hy. Dpt., 165 Capitol Ave., Hartford,

**New Haven Co.**—bridge, approaches Bridge St., 7-span, rolled beam composite, 4 over tracks of N. Y., N. H. & H. R. R. Co., and 3 over Naugatuck River overall length 393 ft., width 62 ft., concrete piers, and abutments, 48 ft. roadway, 6 ft. rein.-con. sidewalks, Proj. 02-54, Fed. Proj. U-146 (3), Ansonia, $1,000,000. CD 3/25/57.

▲ **Ill., Chicago**—Grand Trunk & Western R. R., C. J. Morris, ch. engr., 131 W. Lafayette St., Detroit, Mich., 1,500 ft. rein.-con., structural steel viaduct, 139th and Grand Trunk and Western R. R. $1,000,000. Sverdrup & Parcel, 915 Olive St., St. Louis, Mo., consult. engrs.

**OKLAHOMA**—State Hy. Dpt., Capitol 5, Oklahoma City,

**Hughes Co.**—concrete, steel bridge over South Canadian River, Hy. 48 at Atwood. $600,000.

## STREETS AND ROADS

† **Alaska, Ketchikan**—Alaska P. Wks., Dpt. Interior, Juneau, voted $500,000 bonds Oct. 8, street and sewer imprvs. $800,000. F. D. Langdale, Securities Bldg., Seattle, Wash., consult. engrs. CD 1/31/57.

▲ **Calif., Hayward**—City, City Hall, voted $4,745,000 bonds Oct. 7, street imprvs. CD 8/27.

**Ill., Charleston**—Coles Co., concrete base asphalt topping 1½ mi. road from Zion Hill Church toward Lake Mattoon. $225,000. Virgil I. Dodson, 221 N. 12 St., Mattoon, consult. engr. CD 7/27/45.

▲ **SOUTH DAKOTA**—State Hy. Dpt., Pierre,

**Minnehaha Co.**—grade, concrete paving and 4 structures Int. Hy. I-90-9 (3) 381 from S. D. 11 to Minn. State Line 6 mi. FAI, $3,200,000.

grading, concrete paving, 9 structures 7.0 mi. Int. Hy. I-90-9 (2) 381 from US 77 to SD 11. FAI $3,900,000.

**Union Co.**—grade, concrete paving and 6 structures 12.332 mi. Int. 29 from N. Jct. City to SE Elk Point FAI, $5,600,000.

grade, concrete paving, 8 structures 15.062 mi. Int. 29 from Big Sioux River Bridge to SE Elk Point, I-29-1 (6) FAI, $6,300,000.

**Tex., Grapevine**—City, street imprvs., paving, $275,000.

▲ **Tex., Richland Hills**—City, bond election Nov. 8, complete overhaul of city streets and drainage facilities. $1,540,000. Freese & Nichols, 407 Danciger Bldg., Fort Worth, consult. engrs. CD 10/1/57.

## EARTHWORK, WATERWAYS

**Texas**—State Game & Fish Comn., Main Admin. Bldg., Austin, dredging on Cedar Bayou Fish Pass, Rockport Area, Aransas Co. $375,000.

## AIRPORTS

**Calif., Hayward**—AIRPORT—City, City Hall, defeated bonds Oct. 9, enlarging municipal airport. $662,000. CD 9/16.

**Fla., Clearwater**—BUILDING ADDN., etc.—Pinellas Co. Comn., International Airport, plans by H. A. Wilde, Box 933 Miami, and John Gay, 7217 Gulf Blvd., St. Petersburg, building addn., pave runways, taxiways and lighting International Airport. $300,000.

▲ **Fla., Miami**—PIER—Dade Co. Port Auth., 10th Floor Courthouse, Sixth Finger Pier, Miami International Airport, $3,000,000. Steward & Skinner DuPont Plaza, Center, consult. engrs.

† **Pa., Phila.**—AIR RESERVE TRAINING CENTER—Dpt. Army, 2635 Abbottsford Rd., plans by Antrim & Etter, 117 S. 17th St., U. S. Air Reserve Training Center. $250,000.

## LATIN AMERICA

**Chile, Santiago**—HEADQUARTER BLDG.—United Nations Mission, 2 Park Ave., New York, N. Y., U. S. A., regional headquarters bldg., near here, $850,000.

## PUBLIC BUILDINGS

**Ala., Fairhope**—HOSPITAL—Bd. Trustees, Thomas Hospital, Fairhope, plans by Charles McCauley, Jackson Bldg., Birmingham, 1 story, county-owned hospital. $500,000.

**Ark., Little Rock**—ARMORY—Arkansas National Guard, c/o Maj. Gen. Sherman T. Clinger, Adj. General of Arkansas, Capitol, Little Rock National Guard Armory on 5-acre site, 8th and Elm Sts. $400,000.

▲ **Ark., Osceola**—HOUSING—Housing Auth. of Osceola plans by Stanley Brown & Assocs., 4012 Cedar Springs Rd., Dallas, Tex., 110 housing units, $1,100,000.

**Ark., Searcy**—SCHOOL—Bd. Educ., $727,000 bond election Nov. 4, school, Wittenberg, Delony & Davidson, 510 Center St., Little Rock, archts.

▲ **Calif., Hayward**—CIVIC CENTER BUILDINGS—City, City Hall, defeated 3,700,000 bonds Oct. 7, civic center buildings. CD 8/27.

**Calif., Hayward**—GARAGE—City, City Hall, defeated bonds Oct. 9 garage and maintenance yard for city vehicles. $400,000. CD 9/16.

**Colo., Lakewood**—SPORTS CENTER—Bd. Comns., Jefferson Co., Golden, plans by Stanley E. Morse, 526 Cherokee, Denver, constr., sports center, $800,000. CD 7/9/56.

▲ **Conn., Bridgeport**—SCHOOL—Town, Bd. Educ., 804 Main St., plans by J. Gerald Phelan, 211 State St., North End High School, $3,000,000. CD 11/28/56.

▲ **Conn., Devon**—SCHOOL—Town of Milford, 38 W. River St., Milford, plans by Jesse J. Hamblin, 1188 Main St., Bridgeport, West High School, Devon Park. $1,400,000. CD 8/27.

▲ **Conn., Enfield**—MEDIUM SECURITY PRISON—Conn. State Prison Bd. Directors, Wethersfield, plans by La Pierre & Litchfield, 292 Madison Ave., New York, N. Y., medium security prison. $12,000,000.

**Conn., Shelton**—SCHOOL—Town, Town Hall, plans by Val Carlson, 433 Howe Ave., elementary school, Isinglass Rd., $450,000. J. Carlson, Jr., 433 Howe Ave., consult. engr. CD 10/10/57.

**Conn., West Haven**—FIRE STATION—Town, Town Hall, plans by Schilling & Goldbecker, 18 Trumbull St., New Haven, Central Fire Station, Savin Ave. $345,000.

**Conn., Weston**—SCHOOL—Town, Town Hall, Junior High School. $900,000.

▲ **Conn., Winsted**—HOUSING—Winsted Housing Auth., 338 Main St., plans by Seb. J. Passangesi, 164 Court St. Middletown, 30 unit, low rental housing. $1,000,000. Morton S. Fine, 19 Whitney St., Hartford, consult. engr. CD 2/5.

**Ill., Pinckneyville**—NURSING HOME—Bd. Supervs., Perry Co., Court House, $600,000. bond election Nov. 4, 75 to 90 bed capacity nursing home for county.

▲ **Kan., Bethel**—SCHOOLS—Bd. Educ., c/o Washington Rural High School No. 2, 7340 Leavenworth Rd., voted $1,549,479 bonds Oct. 7, two 1 story, rein.-con. block Junior High Schools, one at 62 St. and Parallel St. and other at 82 St. and Parallel St. Horner & Horner, 1401 Fairfax Trafficway, Kansas City, Kan., archts.

▲ **Kan., Russell**—SCHOOL—Rural High School Dist. No. 7, Russell Co., 635 E. 5th, plans by Edw. M. Fuller, 701 E. 17th Ave., North Kansas City, Mo., high school. $1,500,000. CD 6/14.

**Mass., Agawam**—SCHOOL—Town, Supt. Schools, 100 Main St., plans by Ralph M. Sizer, 12 Elm St., Westfield, elementary school, Shea's Field. $650,000. Constr. 1959.

**Mass., Southwick**—SCHOOL—Town, Supt. Schools, Southwick, plans by Alderman & MacNeish, 594 Riverdale St., West Springfield, high school. $600,000. CD 9/18.

▲ **Mich., Inkster**—SCHOOL—Bd. Educ. Cherry Hill School Dist., Dearborn Twp., 27100 Avondale Ave., Inkster, voted $1,040,000 bonds, Cherry Hill, Junior-Senior High School.

▲ **Minn., Owatonna**—SCHOOL—Bd. Educ., $1,600,000, bond election Nov. 4, elementary school, addns. to high school, and elementary school. Hammel & Green, 1932 1/2 University Ave., St. Paul, archts. for elementary schools. Ellerbe & Co., E 505 First National Bank Bldg., St. Paul, archts. for high school. CD 5/28.

**Minn., Raymond**—SCHOOL—Bd. Educ. Independent School Dist. No. 346, defeated $660,000 bonds school addn. CD 9/5.

**Minn., Rochester**—HOSPITAL—City, Olmsted Community Hospital, plans by Ellerbe & Co., E. 505 First National Bank Bldg., St. Paul, Minn., hospital. $500,000.

**Minn., Madison**—SCHOOL—Bd. Educ. Independent School Dist. No. 375, Madison, voted $980,000 bonds Oct. 7, 1 story school. Haarstick-Lundgren & Assocs., N. 212 First National Bank Bldg., St. Paul, archts. Constr. early 1959.

**Miss., Columbus**—STUDENT CENTER—Mississippi State Bldg. Comn., 1403 Woolfolk State Office Bldg., Jackson, Proj. No. Miss. 22-CH-20(S), student center at Mississippi State College for Women. $750,000.

▲ **Mo., Jefferson City**—HOUSING—Jefferson City Housing Auth., Jefferson City, 170 housing units. $1,500,000.

▲ **Mo., Sikeston**—HOUSING—City Housing Auth., Sikeston, 150 housing units. $1,500,000.

**Mo., Troy**—NURSING HOME—Lincoln Co., Court House, plans by Ernest T. Friton, 410 Security Bldg., St. Louis, Zone 2, county nursing home. $500,000.

▲ **Mo., Waynesville**—HOSPITAL—Pulaski County Hospital, Dixon, Mo., $850,000 bond election Nov. 4, 75-bed hospital. $1,300,000. D. R. Sandford & Sons, 800 Westport Rd., Kansas City 12, Mo. archts. CD 9/29.

**Mo., Wellston**—SCHOOL—Wellston School Dist., Bd. Educ., 6301 Wells Ave., elementary school. $650,000.

**Mont., Great Falls**—SCHOOL—School Dist. No. 1, of Cascade County, elementary school. $808,305. Constr. 1960.

**N. J., Bayville**—SCHOOL—Berkeley Twp. Bd. Educ., Bayville, elementary school, southern part of twp. $344,000.

▲ **N. J., North Haledon**—SCHOOL—Prospect Park-North Haledon Regional High School Dist., voted $2,750,000 bonds Oct. 9, 300-pupil regional high school, on 25-acre site to serve boroughs of Haledon, North Haledon and Prospect Park. $2,500,000. Frederic P. Wiederson Assocs., 65 Roosevelt Ave., Valley Stream, N. Y., archts. CD 9/23.

**N. J., Point Pleasant**—SCHOOL—Bd. Educ., high school addn. $344,000.

**O., Barberton**—SCHOOL ADDNS.—Bd. Educ., Norton School Dist., 4128 Cleveland-Massillon Rd., bond election Nov. 4, high school and Junior High School addns. $525,000.

**O., Youngstown**—SCHOOL ADMINISTRATION CENTER—Bd. Educ., 20 W. Wood St., plans by Myron N. Goodwin, 19 Lincoln St., remodel Market St. School into administration center for School Bd., incl. addition for garages, mechanical shops and parking space, $600,000. CD 11/9/56.

**Ore., Corvallis**—COLLEGE IMPROVEMENTS—State Bd. Educ., University of Oregon, Eugene, central heating plant addn., Oregon State College. $803,500.

**Ore., Monmouth**—COLLEGE—State Bd. Educ., University of Oregon, Salem, central heating plant addn., Oregon College of Educ. $286,860.

▲ **Pa., Lima**—SCHOOL—Central Delaware Jt. School Dist., Lima, plans by Baader, Young & Schultz, 1500 Walnut St., Phila., Rose Tree Union Junior High School. $2,000,000. Chester I. Duncan, 225 S. 15th St., Phila., consult. engr. CD 12/31.

**Pa., Neshaminy**—SCHOOL—Neshaminy Pa. School Dist., constr. Junior High School, Lower Southampton Section, $500,000; elementary school, Middletown Section, $344,000.

**Pa., Spring City**—SCHOOL—Spring-Ford Jt. School Bd., Royersford, plans by H. F. Everett & Assoc., 512 Hamilton St., Allentown, elementary school, Wall St. $400,000. S. W. Herring, 512 Hamilton St., Allentown, Pa., consult. engr. Bids soon. CD 1/31.

▲ **S. C., Charleston**—AUDITORIUM—City, City Hall, bond election Nov. 4, municipal auditorium. $2,500,000. CD 7/23.

**S. C., Florence**—SCHOOL—Florence County School Dist. No. 1, Courthouse, plans by Lewis & Dowis, Florence 72,000 sq. ft. White High School. $730,000.

**Tex., Colorado City**—HOUSING—Colorado City Housing Auth. plans by Natkin & Fitch, 4101 San Jacinto St., Houston, 50 units housing. $500,000.

▲† **Tex., Dallas**—COURTHOUSE, etc.—General Services Admin., F St. between 18th and 19th Sts. N.W., Wash. 25, D. C. and 1114 Commerce St., Dallas, plans by Mark Lemmon, Thomas Bldg., and Geo. L. Dahl & Assocs., 2101 N. St. Paul St., Dallas, (design contract) courthouse and federal office. $24,500,000.

**Tex., Nacogdoches**—DORMITORIES—Stephen F. Austin College, constr. 2 dormitories (125 men's and 100 women's) Tex. 41-CH-94D. $550,000.

**Vt., Newport**—SCHOOL—Town, Supt. Schools, plans by Freeman, French & Freeman, 158 Bank St., Burlington, East Side Elementary School, Junior High School and Senior High School with wings. $550,000.

**Wis., Princeton**—SCHOOL—Bd. Educ., Princeton, high school, $500,000. McMahon Eng. Co., 180½ Main St., Menasha, consult. engr.

▲ **Alta., Calgary**—HOSPITAL—Calgary General Hospital Bd., Calgary, plans by J. Stevenson & Assocs., consult. engrs and archts., 344 12 Ave. W., 175-bed convalescent hospital wing addn. $1,000,000.

**N. B., Sackville**—RESIDENCES—Bd. Regents, Mount Allison University, Sackville, men's student residences at University. $403,000. CD 12/20/45.

▲ **Ont., London**—ARTS—University of Western Ontario, Dr. E. G. Hall, president, plans by O Roy Moore & Co., 260½ Dundas St., 4 story, stone, steel 56x117 ft., center section with tower 30x120 ft. and wing 35x109 ft. arts building. $1,500,000. M. M. Dillon Co., 141 Maple St., consult. engr. CD 5/29/56.

▲ **Ont., Niagara Falls**—COLLEGIATE—Stamford Dist. Bd. Educ., 1773 Drummond Rd., constr. Stamford Collegiate exten., Stamford, $700,000; public school, Stamford, $440,000; secondary school, $1,300,000.

**Ont., Waterloo**—SCHOOL—Kitchener-Waterloo High School Bd., Waterloo, plans by Barnett & Reider, 247 Queen St. S., Kitchener, high school. $450,000. CD 12/17.

## COMMERCIAL BUILDINGS

▲ **Calif., Burlingame**—APARTMENT—Burlingame Investment Co., c/o Mogens Mogensen, archt., 60 Hillsdale Mall, San Mateo, 3 story, 200 unit frame, stucco apartment. $2,000,000.

**Calif., Loma Linda**—CHURCH—College of Medical Evangelists plans by Farrar, Hudson & Assocs., 661 Hy. 99, San Bernardino, 2 story, rein.-con. college church bldg. $650,000. Bids soon.

**Conn., Fairfield**—OFFICE, etc.—St. Paul's Episcopal Church, 661 Old Post Rd., plans by Eben B. Woolley, Red Root Lane, Milford, office addn. and 20 classrooms. $350,000.

**Conn., Green Farms**—MOTEL—Claire F. Zakos, Post Rd., plans by Howard & Thorn, 58 E. State St., Westport, 2 story, colonial design, brick and block, 72 unit motel, Post Rd. $500,000.

▲ **Conn., Hartford**—CULTURAL CENTER—Wadsworth Atheneum, 25 Atheneum Sq. No., plans by Huntington & Darbee, 36 Lewis St., Cultural Center for Ella Burr McManus Memorial, for exhibition of statuary. $1,000,000.

▲ **Conn., Monroe**—HOUSES—Colonial Constr. Co., Inc., 112 Pinewood Trail, Nichols, Bridgeport, 104 houses, Elm St. $1,040,000.

▲ **Conn., New London**—OFFICE, etc.—Southern New England Telephone Co., 227 Church St., New Haven, plans by Douglas Orr, 111 Whitney Ave., New Haven, 6 story, office and operations bldg., dial sys., Washington St. $2,100,000. CD 11/15/56.

**Conn., Stamford**—BOWLING ALLEYS—First Stamford Corp., 1222 Main St., plans by Bertram Whinston, 832 Bedford St., 150 x 250 ft., brick, block, steel joists, air conditioned (40 alleys) bowling alleys, West Main St. $375,000.

▲ **Conn., Stratford**—HOUSES—Colonial Constr. Co., Inc., 112 Pinewood Trail, Nichols, Bridgeport, 80 houses, "Mt. Pleasant Park" Mt. Pleasant Ave. $1,400,000.

▲ **Conn., Wallingford**—HOSPITAL UNITS—Gaylord Farm Sanatorium, Cook Hill Rd., plans by James H. Ritchie & Assocs., 135 Clarendon St., Boston, Mass., 2 hospital units, $1,500,000. Fred S. Dubin Assocs., 136 Boylston St., Boston, Mass., consult. engrs. Edwin P. Mahard, 473 Statler Bldg., Boston, Mass., electrical engr. CD 3/10.

▲ **Conn., Wethersfield** — BOWLING CENTER — Nutmeg Recreation Center, c/o Howard B. Phelon, atty., 25 Lewis St., Hartford, bowling center, Silas Deane Hy. $1,000,000.

**Ga., Forsyth**—PHYSICAL EDUCATION, etc.—Bessie Tift College, plans by Bodin & Lamberson, 827 Forsyth Bldg., Atlanta, physical educ. bldg. and dormitory bldg., Over $500,000.

▲ **Ill., Chicago**—STUDENT UNION—Illinois Institute of Technology, 300 S. Federal St., plans by Skidmore Owings & Merrill, 100 W. Monroe St., 1 story and part 2 story student union bldg. between 32 and 33 Sts. on S. Dearborn St. $2,400,000. CD 10/4.

▲ **Ill., Chicago**—HOSPITAL—Roosevelt Memorial Hospital, 716 W. Wellington St., plans by Wahlgren, Reihmer & Larson, 5153 N. Clark St., hospital, Clark and Wellington Sts. $2,000,000.

▲ **Ill., Downers Grove**—SHOPPING CENTER—C. L. Schrager Co., 30 W. Monroe St., Chicago, plans by Jensen & Jensen, 30 W. Monroe St., Chicago, shopping center, 1146 Ogden St. $1,000,000.

▲ **Ill., Lebanon**—COLLEGE—McKenree College, Bd. Trustees, Lebanon, plans by Hallmuth, Obata & Kassabaum, Inc., 315 N. 10 St., St. Louis 1, Mo., college bldgs., incl. dormitory for 100 women. $2,500,000.

▲ **Ill., Mount Prospect**—SHOPPING CENTER—National Shopping Centers, Inc., 19 W. 44 St., New York 36, N. Y., plans by Raymond Loewy & Assoc., 525 Park Ave., New York, N. Y., 750,000 sq. ft., 50 store shopping center, Rand Rd. and Central Ave. $5,000,000.

**Ind., Fort Wayne**—BOWLING ALLEY, etc.—Ab Elzey, c/o Elzey Furniture Home, Ossian, 32-lane bowling alley, 16,500 sq. ft. supermarket, department store, Bluffton Rd., adjacent to Rice Oldsmobile Sales. $500,000.

**Ind., Fort Wayne**—BOWLING ALLEY—Quimby Theaters, 126 E. Washington St., 24-lane bowling alley, Quimby Village, Bluffton Rd. $400,000. Work to start next spring.

▲ **Ky., Louisville**—HOSPITAL—Jewish Hospital, 217 E. Chestnut St., plans by Joseph & Joseph, Speed Bldg., Zone 2, 2 story hospital addn. $2,000,000.

**Me., Winslow**—CONVENT, etc.—St. John The Baptist Church, 47 Monument St., plans by Melvin Beck, First Rangeway, Waterville, convent and school. $550,000. Constr. 1959.

▲ **Md., Baltimore**—SHOPPING CENTER—Food Fair Properties, Inc., 33 N. Cameron, Harrisburg, Pa., Reisterstown Road Plaza Shopping Center, Reisterstown Rd. at Patterson Ave., on 60-acre site, incl. 2 department stores, Food Fair Market, 50 other shops and parking for 4,000 cars. $10,000,000-$12,000,000.

**Mass., North Andover**—MOTEL—Irving Bell-Hood Rd., Tewksbury, 60 units motel adjacent to Lawrence Airport, $350,000. Constr. 1959.

▲ **Minn., Minneapolis**—SCHOOL, etc.—St. Margaret's Academy, 1301 Linden Ave., plans by B. J. Knowles & Co., Commerce Bldg., St. Paul, 1 story, 7 units North, north of Hy. 12. Over $2,000,000. CD 2/21/46.

**Mo., Columbia**—DORMITORY—Christian College, 8th and Rogers, plans by Hellmuth, Obata & Kassabaum, 315 N. 10th St., St. Louis, Zone 1, Proj. MO-23-CH-49D, 160-capacity women's dormitory. $810,000.

▲ **Mo., Kansas City**—NURSES HOME—Trinity Lutheran Hospital, 31st and Wyandotte Sts., plans by Emil O. Bayerl, 20 W. 9th St., Kansas City 6, Mo., Proj. Mo. 23-CH-48-H, 100-nurses home. $1,000,000. CD 7/1.

**Mo., St. Louis**—AUDITORIUM—Moolah Temple, 3821 Lindell Blvd., Zone 8, plans by Wm. E. Duncan, 9929 Manchester Rd., Kirkwood, Zone 22, 210 x 224 ft. thin shell concrete auditorium with parking area underneath, 3820 Westminster Pl. north of Moolah Temple. Over $500,000. Bids probably late in 1959. school and convent between Upton and Xerxes Ave.

**N. H., Laconia**—MOTEL—George Spanos, c/o L. O. Geoffrion, archt., 1240 Maplewood Ave., Portsmouth, 60 unit motel. $350,000. Constr. 1959.

N. J., Atlantic City—STORES, etc.—Owner, c/o Stephen B. Hazzard, archt., Warrington, Pa., 5 stores, swimming pool, motel, Boardwalk and Ohio Ave. $350,000.

N. Y., Massapequa—CHURCH—Grace Protestant Episcopal Church, 530 Merrick Rd., plans by Slater & Chait, 244 E. 32 St., New York, Zone 16, church, Cedar Shore Dr. and Merrick Rd. $400,000.

N. Y., New York—SYNAGOGUE, etc.—Congregation of Mt. Sinai Anshe Emeth, 109 Wadsworth Ave., plans by Murphy & Horowitz, 443 4th Ave., Zone 16, synagogue and community house, 135-9 Bennett Ave. and 701-15 W. 187th St. $380,000.

N. Y., New York—APARTMENT—Fraydun Realty Corp., 210 Fifth Ave., Zone 10, plans by Schuman & Lichtenstein, 369 Lexington Ave., Zone 17, apartment, 201 E. 70 St. $975,000.

N. Y., New York—APARTMENT—Geller & Mitchell, 16 Court St., Brooklyn, Zone 2, plans by Boak & Raad, 175 Fifth Ave., Zone 10, apartment, 300-304 E. 48th St. $900,000.

▲ N. Y., New York—APARTMENT—Valeray Real Estate Co., 14 E. 47th St., Zone 17, plans by Paul Resnick, 654 Madison Ave., Zone 21, apartment, 175-179 E. 82 St., 1450-1466 3rd Ave. and 168-74 E. 83 St. $1,900,000.

O., Cleveland—APARTMENT—Jerry Rosenthal, 1538 Payne Ave., Zone 14, 50 suite garden apartment, Cliffview Rd., south of Euclid Ave. $500,000.

O., Garfield Heights—RANCH HOMES—A. Siegler & Sons, 5117 Lee Rd., Bedford, 60 frame ranch homes in development to be known at Cranford Park. $900,000.

O., Mansfield—BOWLING ALLEY—Buckeye Lanes, Inc., c/o Harry Brumenshenkel, archt., 13 Park Ave. West, 1 story, 30,000 sq. ft., 32-lane bowling alley, incl. restaurant, cocktail lounge, meeting and banquet rooms. $500,000.

▲ O., Mayfield Heights—HOMES—C. D. Royan Co., 13494 Cedar Rd., Cleveland, Zone 18, 100 homes, off SOM Center Rd., $2,500,000; 100-suite apartment proj., SOM Center Rd., $1,000,000. Construction 1959.

Okla., Tulsa—CHAPEL—First Christian Church, 913 S. Boulder St., plans by Black & West, Tri State Bldg., chapel addn. to Christian Church, 11 and S. Boulder Sts. $400,000.

▲ Pa., Downington—RESIDENTIAL DEVELOPMENT etc.—Daniel M. & Charles L. Tabas, Delaware Ave. and Poplar St., Phila., residential development, $500,000; shopping center, $500,000.

▲ Pa., Harrisburg — APARTMENT — Briarcliff Realty Corp., c/o D. L. Mathieson, 1822 N. Cameron St., 112 unit apartment between Kline Village and Paxtang Ave., Susquehanna Twp. $2,000,000.

Pa., Ithan—SCHOOL—Agnes Irwin School plans by Kneedler, Mirich & Zantzinger, 12 S. 12th St., Phila., school. $750,000.

▲ Pa., Meadville—SCIENCE, etc.—Allegheny College, 513 Main St., science bldg., $1,200,000; plans by Chas M. & Edward Stotz, Bessemer Bldg., Pittsburgh, women's dormitory, $1,700,000.

Pa., Phila.—HOTEL—Delaware Valley Hotel, c/o Sabatino & Fishman, archts., 116 S. 19th St., 68 unit motorist hotel, Roosevelt Blvd. and Bouvier St. $650,000. David R. Wittes, 1913 Walnut St., consult. engr. CD 9/11.

R. I., Providence—SCHOOL—Roman Catholic Diocese, Providence, 34 Fenner St., East Providence, plans by William M. O'Rourke, 90 Union St., Warren, school, Somerset and Tanner Sts. $350,000. Bids about Nov. 1.

R. I., South Providence—CLUBHOUSE—Providence Boys Club, 226 S. Main St., Providence, plans by Barker & Turoff, 335 Angell St., Providence, clubhouse, French, Oxford and Louisa Sts. $750,000. Constr. 1959.

Tex., Beaumont—BANK—American National Bank of Beaumont, bank. $650,000. Site purchased.

▲ Tex., Dallas—OFFICE, etc.—Praetorian Mutual Life Insurance Co., Praetorian Bldg., plans by Grayson Gill, archt.-consult. engr., 1913 San Jacinto St., 15 story office and 40,000 sq. ft. addn. to present praetorian bldg. $1,500,000.

Tex., Dallas—HEALTH CENTER—Dallas Rehabilitation Institute, Commercial Bldg., plans by Howard A. Meyer, 2909 Fairmount St. health center near Brook Hollow Country Club. $900,000-$1,000,000. CD 12/17.

▲ Tex., Duncanville—DWELLINGS, etc.—Flame, Inc., Dr. A. Fain, pres., 31 dwellings $369,175; 26 dwellings $352,200; 28 dwellings $363,335; apartment units $350,000; shopping center $350,000, near High School.

Tex., Fort Worth—DEPARTMENT STORE—R. E. Dumas Milner, 3691 Canton Rd., Jackson, Miss., plans by Hedrick & Stanley, 1200 T&P Bldg., & Assoc. J. W. Jones, 6401 Camp Bowie, Fort Worth, 1 story, 100,000 sq. ft. floor space masonry (1st unit of shopping center) Clarks Dpt. Store, 6300 Block, Camp Bowie. $700,000. CD 3/15/57.

▲ Tex., Fort Worth—SHOPPING CENTER, etc.—Southgate, Clark & Henry, Realtors, Del Barron, 209 W. 8 St., plans by Chas. E. Armstrong, 10131½ University Dr., Regional Shopping Center, $5,000,000; hard-paved area and auto parking center $100,000; earth site development, $50,000, all at site, Riverside Dr. and E. Berry St.

Tex., Houston—DWELLINGS—Jas. A. Bryan, Contractor, 3920 Childress St., 22 dwellings. $367,500.

▲ Tex., Houston—DWELLINGS—Buck Realty Co., 4708 Griggs St., 28 dwellings, $378,000; 26 dwellings, $351,000; 25 dwellings, $345,750; 30 dwellings, $405,000, in Golfview Manor Subdivision.

Tex., Houston—HOSPITAL—C. T. Grubbs & Assocs., Texas National Bank Bldg., plans by Knostman & Webster, 2017 W. Gray St., 68 bed hospital, 1600 block Hilkendahl Rd. $600,000.

▲ Tex., Houston—SHOPPING CENTER, etc.—J. W. Lander Constr. Co., 1000 Dunlavy St., plans by Langwith, Wilson & King, 1109 Kipling St., shopping center. $3,000,000, restaurant $425,000. CD 10/13.

Tex., Houston—DWELLINGS—Paul J. McConnell, Builder, 6258 San Felipe Rd., 14 dwellings. $358,000.

▲ Tex., Houston—MOTEL—Owners, c/o Hotel Corp. of America, lessee; Roosevelt Hotel, New York, N. Y., 100 unit motel. $1,000,000.

Tex., Irving—APARTMENT—Hal Anderson & Assocs., 5335 Meaders Lane, Dallas, 53 unit apartment, Lucille and 6th Sts. $400,000.

▲ Tex., Kermit—SHOPPING CENTER, etc.—E. O. Parsons, Contractor, Monahans, plans by Fred Armstrong, Pecos, shopping center $350,000; 34 dwellings, $363,450; 36 dwellings, $376,425; 38 dwellings, $391,000; 34 dwellings, $354,125; 28 dwellings, $346,500; 32 dwellings, $353,000.

▲ Tex., Levelland—DORMITORY, etc.—South Plains College, dormitory $500,000, general permanent type campus paving program $390,000, rein.-con. sidewalks $125,000.

Tex., Plainview—CLASSROOMS—Wayland Baptist College, Plainview, 2 story masonry classrooms. $350,000.

Tex., San Antonio—APARTMENTS—E. J. Burke & Sons, 1100 Goliad Rd., apartments, SE San Antonio. $475,000.

▲ Tex., San Antonio—SHOPPING CENTER—Gateway Center, Inc., L. R. Pletz & Joe Barshop, South Texas Bldg., plans by Marmon-Mok Assocs., proj. archts. & planning consults., South Texas Bldg., shopping center, $2,500,000; site earthwork, $50,000; area-lighting, $75,000, San Pedro Ave. near Loop 13 adjacent to "North Star" Shopping Site. Reynolds & Morgan, 1003 Ins. Bldg. and Frank T. Drought, 342 W. Woodlawn St., San Antonio, Tex., consult. engrs. CD 10/15.

Tex., San Antonio—HOSPITAL—Grace Lutheran Sanatorium & Hospital, 701 S. Zarzamora Ave., plans by Page, Southerland & Page, 602 W. Ave., Austin, convalescent hospital. $500,000. CD 9/24.

▲ Tex., San Antonio—MEDICAL, PROFESSIONAL PLAZA, etc.—Great American Development Co., Inc., 107 Ogden Lane, Zone 9, plans by DeVerne Kittles, archt. and land planning, 523 W. Hildebrand Ave., and Frank Knight, technical consult., Littlefield Bldg., Austin, 1 story medical and professional plaza and 200 unit tower apartment (luxury and efficiency apartments) $5,500,000; swimming pool, $80,000; hard-paved area and auto parking center, $90,000, Breckenridge Ave., Ira St., Oak Tree Dr. and Tendick Ave.

Tex., San Antonio—SCHOOL—Most Rev. Rob. E. Lucey, Archbishop, 230 Dyer Ave., St. Pius X, School-Convent-Administration. $350,000.

▲ Tex., San Antonio—DWELLINGS—H. B. Zachry Properties, Inc., Box 10188, 18 dwellings, $373,150; 16 dwellings, $361,700; 12 dwellings, $348,000; 20 dwellings, $386,000; 14 dwellings, $351,175, Meadowwood Estates Subdivision, N. New Braunfels Ave.

▲ Wash., Kennydale—HOUSES—A. M. Brewer, Renton, 100 houses, Garden of Eden Development. $2,000,000.

▲ Wash., Kent—HOUSES—Sleeman Constr. Co., Kent, 70 houses, Arthur L. Burkland plat, 3 mi. west of here at 249th St. and 38 Ave. S. $1,000,000.

Wash., Olympia—DORMITORY—St. Martin's College, Damian Gleen, pres., Martin Way, dormitory bldg., Proj. No. Wash. 45-CH-32 (D), $675,000.

▲ Wis., Milwaukee—HOUSING—American Federation of State, County & Municipal Employees, 9th and Massachusetts Ave. N.W., Wash., D. C., two hundred twenty 2 story, garden-type, middle-income rental housing units. $2,000,000.

Man., Winnipeg—OFFICE—Mutual Life Assurance Co. of Canada, 700 Somerset Bldg., plans by Green, Blankstein, Russell & Assocs., 222 Osborne St. N., office bldg., Portage Ave. and Greenwood Pl. $350,000.

Ont., London—SHOPPING CENTER—Esam Constr. Co., 51 Erwin St., brick, concrete blocks, steel shopping center, paved parking lot for 1000 cars. $450,000.

## INDUSTRIAL BUILDINGS

Ala., Montgomery—WAREHOUSE—Hudson & Thompson, 813 N. Decatur St., plans by Ballinger Messerole, Inc., 1625 Race St., Phila., Pa., 100,000 sq. ft. wholesale grocery warehouse with cold storage facilities, $500,000.

Ark., Fort Smith—WAREHOUSE, etc.—Grace Paper Co. plans by Bassham & Cockram, Kennedy Bldg., 30,000 sq. ft., steel frame, bar joists, tilt up concrete, etc. warehouse and office bldg. $300,000.

Ark., Stuttgart—OIL STORAGE—U. S. Oil Terminal Co., Cushing, oil storage and distr. facilities, incl. 4 storage tanks, capacity 375,000 bbls., loading facilities and office space. $200,000.

▲ Conn., New Haven—RAILROAD SHOP BUILDINGS—New York, New Haven & Hartford R. R. Co., T. P. Polson, ch. engr., 54 Meadow St., Zone 6, railroad shop buildings for centralized shop facilities. $1,500,000.

Conn., Windsor Locks—FACTORY—Hi-G Inc., Bradley Field, Windsor Locks, 22,000 sq. ft. factory, West Spring St. for mfr. of precision electronic relays. $220,000.

Fla., Miami—WAREHOUSE—Emmers Magic City Bottle & Supply, 1380 NW 23 St., plans by Manfred M. Ungaro, 4100 N Miami Ave., 1 story, 173 x 299 CB-air conditioned warehouse, paving, tanks, etc., NW 35 Ave., (DuPuis Industrial Center). $200,000.

Fla., Tampa—PLANT, etc.—Borden's Dairy, Drew Park, 300 x 250 ft. plant and service bldg., office, $500,000. Puffara, Bowen & Watson, 2910 Grand Central Ave., consult. engrs.-archts.

Iowa, Sperry—GYPSUM MFG. PLANT—United States Gypsum Co., 300 W. Adams St., Chicago 6, Ill., gypsum mfg. plant for sheetrock gypsum wallboard, rocklath plaster base, bldg. plasters and gypsum sheathing, etc.

Mass., Westfield—INDUSTRIAL PARK—Westfield Development Corp., Southampton Rd., industrial park, 13-acres, Mass. Turnpike-Owen Dist. Rd., New York-New Hampshire and Hartford R.R. $650,000.

▲ Minn., Minneapolis—PLANT—Minneapolis Gas Co., 739 Marquette Ave., propane plant, Bluff St. and South Ninth Ave. $1,200,000. Constr. 1959-1960.

Mo., St. Louis—MANUFACTURING, etc.—W. S. Dickey Clay Mfg. Co., 2395 Hampton Ave., Zone 10, 1 story, 130 x 157 ft. steel, masonry clay products manufacturing bldg. and 1 story, 2,000 sq. ft. office. $345,000.

Okla., Oklahoma City — TERMINAL — Lee Way Motor Freight Lines, 300 W. Reno St., 1 and 2 story, structural steel, metal freight terminal, Armour Dr. $200,000.

▲ Pa., Chester—WAREHOUSE—Scott Paper Co., foot of Market St.; plans by The Ballenger Co., archts.-consult. engr., 1625 Race St., Phila. warehouse (addn. to Bldg. 68). $2,500,000.

▲ Pa., Phila.—FACTORY—Truehauf Trailer Co., 1730 N. Delaware Ave. factory branch, State Rd. and Unruh St., etc. $1,000,000.

▲ Pa., Williamsport—SHOP—Reading Railroad, H. F. Smith, ch. engr., Reading Terminal, Phila., Zone 7, shop replacement and repairs. $1,000,000.

S. C., Simpsonville—PLANT—James Hunter, Inc., Lowndes Hill Rd., Greenville, mfg. plant.

Tenn., Cookeville—PLANT—Pepsi Cola Bottling Co. plans by Arnold Lacy & Son, Cookeville, plant addn. $250,000.

Tenn., Dayton—PLANT—Old Dominion Paper Box Co., 22 9 St., Lynchburg, Va., plans by Cook & Rhymer Assocs., Dayton, 20,000 sq. ft. plant. $100,000.

▲ Tex., Houston—PLANT—Reichhold Chemicals, Inc., 2301 Commerce St., No. 1 unit, chemical plant (mfg. variety of synthetic resins) off Haden Rd. in Greens Bayou area. $1,000,000.

Tex., Houston—WAREHOUSE, etc.—Stahl & Myers, 2301 Dumble St., plans by Jos. Krakower, 505 Avondale St., 65,000 sq. ft. masonry warehouse, office, showroom, 4300 Blk. of Gulf Freeway. $750,000.

▲ Tex., Rockport—PLANT—Tennessee Gas Transmission Co., Commerce Bldg., Houston, stripping plant on Lamar Peninsula. $1,000,000.

Tex., Rockwall—PLANT—Texas Aluminum Co., Rockwall plant expansion. $350,000.

▲ Newfoundland, Baie Verte—ORE DEVELOPMENT—Advocate Mines, Ltd., 330 Bay St., Toronto, Ont., Patino of Canada Ltd., 55 Yonge St., Toronto, Ont., Amet Corp., Inc., Financiere Belge de L'Asbestos-Ciment S. A. and Canadian Johns-Manville Co. Ltd., 310 Victoria Ave., Montreal, Que., asbestos ore development. $1,000,000.

▲ Que., Mistassini—MINE DEVELOPMENT—Quebec Silica Mine Ltd., c/o Notary J. J. Turcotte, Normandin, constr. Silica mine development, incl. reduction plant, Roberval Co. about 12 mi. from here. $1,000,000.

## UNCLASSIFIED

Ala., Mobile—STADIUM—City, City Hall, steel, concrete sports stadium. $400,000.

▲ Calif., Hayward—PARKS, City, City Hall, defeated bonds Oct. 9, parks. $1,000,000. CD 9/16.

Calif., Hayward—FIRE ALARM SYSTEM—City, City Hall, defeated bonds Oct. 9, enlarging and altering fire alarm sys. $762,000. CD 9/16.

Conn., Stamford—FACILITIES BLDG.—City, City Hall, plans by Steinbach & Rheaume, 305 Atlantic St., 2 story, facilities bldg., restaurant, lockers, etc., East Beach, Cove Island. $275,000. CD 19/15/56.

Texas — RURAL DISTRIBUTION LINES — Kaufman Co. Electric Co-operative, Kaufman, rural electric pole lines, Kaufman Co. $395,000.

Texas—RURAL DISTRIBUTION LINES—Panola-Harrison Electric Cooperative, Marshall, electric distr. lines in rural areas. $360,000 REA alloted. CD 2/26.

Texas—RURAL POLE TELEPHONE LINES—Telephones, Inc., 2501 Cedar Springs Rd., Dallas, rural pole telephone lines, Wichita Falls in Wichita, Mitchell Parker and Fringes of 5 other counties. $815,000.

Tex., La Porte—GYMNASIUM, etc.—La Porte Ind. School Dist., plans by Matt E. Howard, Jr. & Assocs., archts., consult. engrs., 2444 Times Blvd., Houston, gym stadium, football field and track. $350,000.

Utah, Bountiful — RECREATIONAL FACILITIES — City, City Hall, bond election Nov. 4, recreational facilities. $350,000.

Utah, Murray—GENERATOR—Murray City Council, Mayor Ray P. Greenwood, City Hall, electric power generator, 2,500 kw. dual-fuel generator. $551,000.

Wash., Spokane—SWIMMING POOLS, etc.—City, City Hall, $797,000 bond election Nov. 4, all-weather swim pool, and other park imprvs., Shadle park, $400,000; modernizing city swimming pools, and other park imprvs., $390,000. CD 3/18.

Que., Verdun—PARKING LOT—City, City Hall, parking lot, Wellington St. $500,000.

# Bids—Low Bids—Contracts—Second Section

## NEW ENGLAND

### HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

November 4 Massachusetts

▲† **Me., Limestone**—PAVEMENTS and UTILITIES—BA On Or About 11/26—U. S. Eng., 562 Congress St., Portland, constr. pavement and utilities (ADC) F.Y. 59, involving 25 acres clearing and grubbing, 48,000 cu. yd. excav., 170,000 cu. yd. borrow, 70,000 cu. yd. subbase course, 36,000 sq. yd. concrete, 20,000 sq. yd. b. conc., water lines, sewer lines, drainage lines, etc., Loring Air Force Base, ENG-19-016-59-44. $1,250,000-$1,500,000. Plans deposit $10. CD 9/8.

### HEAVY CONSTRUCTION—LB & CA

**Wes Julian Constr. Corp.**, 850 Providence Hy., Dedham, Mass., CA **$841,080**, est. $900,000, Contr. 245, furnishing, laying steel water pipes, Weston-Newton-Wellesley and Needham, MASSACHUSETTS. Commonwealth of Mass., Metropolitan Dist. Comn., Water Div., 20 Somerset St., Boston, Mass. Bids Oct. 2. CD 9/22.

▲ **CONNECTICUT**—State Hy. Dpt., State Office Bldg., Hartford,

**Enfield Road Constr. Co., Inc.**, Depot Hill Warehouse Point, Conn. and **E. T. O'Neill & Son Constr. Corp.**, 223 Commercial St., Holyoke, Mass. CA **$3,683,359**, grading, drainage, lighting, traffic controls and rein.-con. pavements, 24,000 lin. ft. Hartford-Springfield Expressway, incl. 6 grade separation structures, Fed. Proj. FAI 1-139 (24). CD 9/18.

**CONNECTICUT**—State Hy. Dpt., 165 Capitol Ave., Hartford,

**W. J. Megin, Inc.**, 51 Elm St., Naugatuck, Conn. CA **$872,107**, 3 grade separation structures and 1 rein.-con. box culvert on relocation of Route US 6, incl. 669 lin. ft. grading, drainage, etc., Proj. 34-102, FAI Proj. U-84-1 (1) 5 Danbury. Bids Sept. 15, awarded Oct. 20. CD 9/18, under LB.

### BUILDINGS—LB & CA

**Lilly Constr. Co.**, 110 Western Ave., Allston, Mass. CA Approx. **$800,000**, 46,600 sq. ft. SHOPPING CENTER, Brighton Ave., PORTLAND, ME. Pine Trees Shopping Center, c/o Columbia Market, 334 Forest Ave., Portland, Me. CD 10/3.

**John A. Volpe Constr. Co.**, 54 Eastern Ave., Malden, Mass., CA **$774,449**, RESEARCH LABORATORY and KITCHEN and CAFETERIA, Longwood Ave., ROXBURY, MASS. Boston Lying-In Hospital, 221 Longwood Ave., Roxbury, Mass. Bids Oct. 15. CD 10/9.

▲ **New England General Contg. Co.**, 341 State St., New Haven, Conn. CA **$1,260,000**. Lincoln JUNIOR HIGH SCHOOL EDITION, MERIDEN, CONN. Town, Bd. Educ., 22 Liberty St., Meriden, Conn. Bids Oct. 9. CD 10/13, under LB.

**Conaco Constr. Co.**, 104 Reservoir Ave., Bridgeport, Conn. CA **$737,600**, 2 story, masonry SCIENCE BLDG. incl. planetarium and observatory, New Haven State Teachers College, NEW HAVEN, CONN. State P. Wks. Dpt., 165 Capitol Ave., Hartford, Conn. Bids Aug. 27. CD 9/16.

▲ **Felix Buzzi & Son, Inc.**, 612 South Main St., Torrington, Conn., LB **$2,890,000** (15 bidders), LIFE SCIENCE BLDG., University of Conn., STORRS, CONN. State P. Wks. Comr., 165 Capitol Ave., Hartford, Conn. Bids Oct. 22. CD 9/23.

**The Marjoe Corp.**, 20 Brook St., Hartford, Conn., Owner Builds, **$799,500**, 41 HOUSES "Rockledge Estates", Beechwood Rd., WEST HARTFORD, CONN. CD 7/31.

**Steinberg & Brown**, 5 Russell Lane, West Hartford, Conn., Owner Builds, **$945,000**. 45 HOUSES, "Windsor Park", WINDSOR, CONN.

## MIDDLE ATLANTIC

### HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

November 5 Delaware November 6 Maryland

November 20 New York

STREETS AND ROADS

November 6, 7, 12, 13 New Jersey

November 20 New York

▲ **N. Y. Brooklyn**—BA 11/19—Dpt. P. Wks., Rm. 2200, Municipal Bldg., New York, Zone 7, general constr., structures and equipment, plumbing, heating and ventilating and electrical work of Coney Island Pollution Control Proj., 3d Stage, Brooklyn Boro. $9,500,000. Plans deposit $40.

▲ **Pennsylvania**—TUNNEL IMPRVS.—BA 12/5—Pa. Dpt. Hys., 506 North Office Bldg., Harrisburg, 7 major appurtenances to Fort Pitt Tunnel in Pittsburgh, consisting furnishing, installing power switchgear, control board, distribution equipment, incl. motor starters, wire and cable, roadway and tunnel lighting, traffic control sys. and closed T.V. sys. for tunnel, constr. north and south ventilation bldgs. and garage and maintenance bldg. for Fort Pitt Tunnel, the plumbing for the North and south ventilation bldgs. and garage and maintenance bldg. for Fort Pitt Tunnel, the heating and ventilating for North and South Ventilation Bldgs. and garage and maintenance bldg. for Fort Pitt Tunnel, the electrical work for the North and South Ventilation bldgs. and the garage and maintenance bldg. for Fort Pitt Tunnel, furnishing, installing fans, motors and transmissions for ventilation sys. in the ventilation bldgs. of Fort Pitt Tunnel, furnish, deliver 3 emergency tractors, incl. testing of tractors. CD 9/4/56.

### BUILDINGS—BA

▲ **N. J. Lambertville**—SCHOOL—BA 11/10—South Hunterdon Regional High School Dist., regional high school, West Amwell Twp., near here, $1,250,000, Frederic Wiedersum Assocs., 85 W. Hawthorne Ave., Valley Stream, N. Y., archts. CD 12/9.

▲ **N. J., Woodbury**—SCHOOL—BA 11/13—Deptford Twp. Bd. Educ., Woodbury, Junior High School addns., sewage disposal and drainage system. $1,125,000. Plans deposit $50. Albert & Michel, 4101 Marlton Ave., Pennsauken, archts. CD 6/27.

**N. J. Pompton Lakes**—SCHOOL—BA 12/2—Bd. Educ. Borough of Pompton Lakes, high school addn. $975,000. Emil Schmidlin, 586 Central Ave., East Orange archt. CD 6/6.

▲ **Del., Wilmington**—SCHOOL—BA 1/7—Henry C. Conrad School Dist., Woodcrest, Wilmington, high school. $4,313,000. Pope & Kruse, 911 Washington St., archts. CD 8/29/57.

### BUILDINGS—SLC

▲ **Pa., Phila.**—HOSPITAL, etc.—Nolen & Swinburne, archts., 1601 Locust St. soon lets contract hospital, mothers bldg., chapel, convent for St. Vincents Home, c/o 410 Sagamore Dr., Havertown, $1,400,000. Keast & Hood, 2031 Chestnut St., engrs. CD 6/20.

### HEAVY CONSTRUCTION—LB & CA

▲ **NEW YORK**—Dpt. P. Wks., State Office Bldg., Albany, N. Y.—**Johnson, Drake & Piper, Inc.**, 86 Trinity Place, New York, N. Y., CA **$2,548,598**, est. $3,266,000, city of Lackawanna Arterial Rte. 1.77 mi. Rte. 5, Erie Co.;

N. Y.—**The Callanan Rd. Imp. Co.**, Quarry South, South Bethlehem, N. Y., CA **$1,291,927**, est. $1,414,000, wid'n., resurf. 10 mi. section Rte. 17 K, starting at new Rte. 17 expressway intersection east of Bloomingburg and extending eastward thru Bullville to Montgomery, Orange Co.;

N. Y.—**Brunner Asphalt & Constr. Co., Inc.**, 237 Kingston Ave., Buffalo, N. Y., CA **$526,972**, est. $611,000, resurf. 3.11 mi. section Rte. 20 starting at 18-mile Creek Bridge near North Evans and extending northeastward to Pleasant Ave., Erie Co.;

N. Y.—**Bero Constr. Corp.**, Waterloo, N. Y., CA **$628,655**, est. $716,000, c. conc. pavement, misc. work 1.14 mi. Rte. 31 and 0.29 access miles over Erie Canal on new location east of Holley-Brockport, Monroe and Orleans Counties. Grand total $4,996,152. Bids Aug. 28, awarded 10/8. CD 9/4, under LB.

▲ **Poirier & McLane Corp.**, 33 W. 42 St., New York 36, N. Y., LB **$6,463,949** (5 bidders), Contr. No. 15, force main tunnel, Newtown Creek pollution control project, Brooklyn and Manhattan Boros, BROOKLYN, N. Y. Dpt. P. Wks., Rm. 2200, Municipal Bldg., New York 7, N. Y. Bids Oct. 22. CD 9/25.

▲ **PENNSYLVANIA**—Pa. Hys. Dpt., 506 North Office Bldg., Harrisburg, Bids opened 10/17,

Pa.—**Collins & Maxwell Roadmakers, Inc.**, 600 Bushkill Dr., Easton, Pa., LB **$684,928** (7 bidders) 8,846 ft. divided hy. crushed aggreg. base with bit. surf. 24 ft. wide each side 4 ft. divisor; 1 bridge, Pittston By-Pass for Rte. 11. L. R. 40038 (3) Jenkins and Pittston Twps., City of Pittston, Luzerne Co.; LB **$78,926** (10 bidders) 1,601 ft. crushed aggreg. base with bit. surf. 20 ft. wide L. R. 40112 (4) Rice Twp., Luzerne Co.;

Pa.—**R. J. Nichols Co.**, Box 229, Kittanning, Pa. LB **$734,497** (9 bidders) 7,461 ft. c. conc. road variable in width; 1 alt. superstructure bridge, T. R. 66. Manor and Rayburn Twps., Armstrong Co.;

Pa.—**New Enterprise Stone & Lime Co.**, New Enterprise, Pa. LB **$408,580** (2 bidders) 8,120 ft. crushed aggreg. base with bit. surf. 20 ft. wide; 3 bridges, T. R. 915. Hopewell Boro, Broad Top Twp., Bedford Co.;

Pa.—**Putman & Greene, Inc.**, Box 2082, Station A, Fort Wayne, Ind. LB **$757,019** (3 bidders) 26,669 ft. crushed aggreg. base with bit. surf. variable in width; 1 bridge with alt. superstructure, T. R. 949 Ridgeway Twp., Ridgeway Boro, Elk Co.;

Pa.—**Marsolino Constr. Co.**, 309 Fayette National Bank Bldg., Uniontown, Pa. LB **$813,080** (4 bidders) 15,114 ft. divided hy., widening existing road with crushed aggreg. base and bit. surf. 22 ft. wide each side divisor, T. R. U. S. 40, N. Union and S. Union Twps., Fayette Co.;

Pa.—**Rupp Bros., Inc.**, Box 230, Kittanning, Pa. LB **$565,711** (4 bidders) 29,105 ft. widening existing road with crushed aggreg. base 4 ft. wide and surf. new and existing pavement with bit. surf. 22 ft. wide, 2 alt. superstructure bridges, T. R. 85, S. Mahoning, Washington and Rayne Twps., Indiana Co.;

Pa.—**Lipsett, Inc. and Booth & Flinn Co.**, 209 N. 22nd St., Phila., Pa. LB **$1,920,175** (8 bidders) 3,345 ft. divided hy. of c. conc. variable in width, each side divisor, 4 bridges, L. R. 67058 (3) section Roosevelt Blvd. Exten., Phila., Philadelphia Co.;

Pa.—**Reed & Kuhn, Inc.**, Elysburg, Pa. LB **$905,950** (11 bidders) 9,761 ft. divided hy., widening existing road with crushed aggreg. base and bit. surf. 24 ft. wide each side 4 ft. divisor, 2 bridges, T. R. U. S. 12. W. Brunswick Twp., Schuylkill Co.;

Pa.—**N. B. Putman Co.**, Honesdale, Pa. LB **$581,517** (3 bidders) 30,008 ft. crushed aggreg. base with bit. surf. 22 ft. wide. T. R. 106, Berlin and Damascus Twps., Wayne Co. CD 10/1.

▲ **PENNSYLVANIA**—Pa. Hy. Dpt., 506 North Office Bldg., Harrisburg,

**Adam Eidemiller Inc.**, R.D. 4, Greensburg, Pa., CA **$2,064,814**, 28,742 ft. divided hy. c. conc., 24 ft. wide each side of earth median area, 1 bridge, T.R. 51, Rostraver, Forward and Elizabeth Twps., Westmoreland and Allegheny Counties. Bids Sept. 25, awarded Oct. 17. CD 9/30, under LB.

▲† **American Dredging Co.**, 12 S. 12th St., Phila., Pa. CA **$1,027,072**, dredging Delaware River opposite mouth of Poquessing Creek, Torresdale, ENG-36-109-59-3, PENNSYLVANIA. U. S. Eng., Box 8629, 2635 Abbottsford Rd., Phila., Pa. Bids Oct. 2. CD 10/13, under LB.

▲ **PENNSYLVANIA**—Pa. Hys. Dpt., 506 North Office Bldg., Harrisburg,

**Hempt Bros., Inc.**, R.D. 1, Camp Hill, Pa., CA **$1,208,577**. 28,299 ft. divided hy. of crushed aggreg. base with bit. surf. 24 ft. wide each side divisor, 1 bridge, T.R. 220, Piatt and Woodward Twps., Lycoming Co. Bids Sept. 26, awarded Oct. 17. CD 9/30, under LB.

**John Monte Co.**, 2144 Greenfield Rd., Oak Park, Mich. CA **$986,358**, sewerage sys., sewers Contr. 1, BOOTHWYN, PA. Upper Chichester Municipal Auth., Boothwyn, Pa. Bids Sept. 2. CD 9/11, under LB.

▲ **Ruckman & Hansen, Inc.**, 3617 No. Clinton St., Fort Wayne, Ind. and **Roy Ryan Sons Co., Inc.**, 5416 Boonville Hy., Evansville, Ind. (joint venture), CA **$1,667,350**, east approach sub-structure for Woodrow Wilson Memorial Bridge over Potomac River, Forest Heights, Prince George's Co., MARYLAND and VIRGINIA. Bureau P. Rds., Dpt. Commerce, 1440 Columbia Pike, Arlington, Va. Bids Oct. 9. CD 10/13, under LB; **Pittsburgh-DesMoines Steel Co.**, Neville Island, Pittsburgh 25, Pa., CA **$2,375,760**, west and east approach superstructure steelwork for Woodrow Wilson Memorial Bridge (Maryland and Virgina).

### BUILDINGS—LB & CA

▲ **Wilaka Constr. Co., Inc.**, 11 E. 44 St., New York 17, N. Y., LB **$5,845,000**, Contrs. 5 & 6, general constr. Baisley Gardens HOUSES (Proj. NYC-32) Foch Blvd., 157th St., 116th Ave. to 195th St. and New York Blvd., Baisley Park HOUSES (Proj. NY-5-38) Long Island Railroad, Foch Blvd., New York to Foch Blvds. in area by 116th Ave., Bedell St., New York Blvd., Foch Blvd. to New York Blvd. and 159th St., Queens Boro, JAMAICA, N. Y. New York City Housing Auth., 299 Broadway, New York 7, N. Y. Bids Oct. 21. CD 9/25;

**Heating Maintenance Corp. of New York**, 220 E. 138 St., New York 51, N. Y., LB **$547,000**, Contr. 7, heating for Baisley Gardens Houses and Baisley Park Houses (Jamaica, N. Y.);

**Nager Elec. Co.**, 426 Broadway, Brooklyn 11, N. Y., LB **$357,000**, Contr. 8, electrical work for Baisley Gardens Houses and Baisley Park Houses, (Jamaica, N. Y.);

**Lipsky & Rosenthal, Inc.**, Lexington Ave. and 115th St., New York 29, N. Y., LB **$632,900**, Contr. 9, plumbing for Baisley Gardens Houses and Baisley Park Houses, (Jamaica, N. Y.).

▲ **Cauldwell-Wingate Co.**, 120 E. 41 St., New York 17, N. Y. CA Est. **$45,000,000**, 53 story OFFICE "277 Park Ave". Park, Lexington Aves., 47 and 48 Sts., NEW YORK, N. Y. Stahl Equities Corp., 1657 Broadway, New York, N. Y. Emery Roth & Sons, 400 Park Ave., New York, N. Y., archts. CD 10/23.

**Sawmore Constr. Co.**, 228 Delaware Ave., Buffalo, N. Y., Owner Builds, **$950,000**, 200 x 700 ft. SHOPPING PLAZA, W. State St. near 24 St., OLEAN, N. Y. Thomas Justin Imbs, 225 Delaware Ave., Buffalo 2, N. Y., archts.

**R. A. Prendergast & Sons**, 3010 Sunset Ave., Atlantic City, N. J. CA **$500,000**, 75 unit MOTEL, incl. OFFICE and 4 STORES, ATLANTIC CITY, N. J. Sorrento Motel, 20 S. Georgia Ave., Atlantic City, N. J. CD 9/11.

▲ **Losick Homes, Inc.**, 128 River Edge Rd., Tenafly, N. J., CA **$1,200,000**, 40 HOUSES at Starview Gardens on Ruckman Rd., CLOSTER, N. J. Paul Losick, pres. Losick Homes, Inc., 128 River Edge Rd., Tanafly N. J. Martin, Gebhardt & DiPaola, 205 Broad Ave., Fairview, N. J., archts.

▲ **Badger Mfg. Co.**, 230 Bent St., Cambridge, Mass. CA **$5,000,000**, 250,000 sq. ft. anhydride PLANT adjoining existing factory, Rockefeller St., ELIZABETH, N. J. Reichhold Chemicals, Inc., 726 Rockefeller St., Elizabeth, N. J.

▲ **Mahony-Troast Co., Inc.**, 790 Bloomfield Ave., Clifton, N. J., CA **$1,750,000**, MANUFACTURING BLDG. and BOILER HOUSE, LINDEN, N. J. Hatfield Wire & Cable Co., Div. of Continental Copper & Steel Industries, Inc., 120 Broadway, New York, N. Y. and Hillside, N. J. CD 11/22.

▲ **Turner Constr. Co.**, 1500 Walnut St., Phila., Pa., CA **$1,000,000**, PLANT addn., SOMERVILLE, N. J. Radio Corp. of America, U. S. Hy. 202, Somerville, N. J. Malcolm B. Wells, Cuthbert Blvd. & Cooper River Parkway, Merchantsville, N. J., archt.

▲ **C. Lewis Stryer**, 905 Glenwood St., Emmaus, Pa. Separate Contracts. **$1,500,000**. 1 story, 500 x 300 ft. brick block, steel MANUFACTURING BUILDING, for lease, EAST GREENVILLE, PA.

**Arthur A. Kober Co.**, 9 Union Ave., Bala Cynwyd, Pa. CA **$750,000**, BOWLING CENTER, PHILA., PA. Andora Homes, Inc., 901 Glenroy Rd., Phila., Pa. Walter K. Durham, 1606 Latimer St., Phila., Pa., archt. Keast & Hood, 1201 Chestnut St., Phila., Pa., engrs. CD 9/26.

# SOUTH

## HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

November 7 Kentucky — November 21 Florida

STREETS AND ROADS

November 7 Kentucky

## BUILDINGS—BA

▲ **Va., Annandale**—HOSPITAL—BA 11/14—Fairfax Co. Health Council, Fairfax County Courthouse, Fairfax, 300 bed hospital, Gallows Rd. at Arlington Blvd. $6,000,000. Plans deposit $250. CD 11/11/55, under Va., Fairfax.

## HEAVY CONSTRUCTION—LB & CA

▲ **VIRGINIA**—Commonwealth of Va., Dpt. Hys., 1221 E. Broad St., Richmond, Bids opened 10/21.

Va.—**Ames & Webb, Inc.,** Box 4055, Norfolk, Va. LB **$152,238** (2 bidders), 1.09 mi. 22 ft. x 8 in. c. conc. pavement beginning 1.1 mi. W. Lynhaven inlet ending 0.21 mi. E. Int. Rte. 166, Rte. 60, State Proj. 0060-075-011, C-2, Fed. Proj. DF 037-1 (6) Princess Annex Co.; LB **$819,527** (2 bidders) 1.86 mi. 44 ft. x 8 in. divided c. conc. beginning Int. 17th St. ending Int. Atlantic Ave. (Pacific Ave.) Rte 60, State Proj. 0060-134-070, Fed. Proj. U-134-1 (1) City of Virginia Beach;

Va.—**E. F. Blankenship Co.,** 1308 W. Main St., Salem, Va. and **Laramore Constr. Co., Inc.,** Box 348, Danville, Va. LB **$307,576** (7 bidders), 2.23 mi. 2' ft. x 5½ in. bit. concrete and overpass beginning 1.31 mi. N. of NCL Chatham, Rte 29, State Proj. 0029-071-023-024-101, Fed. Proj. F-FG-018-1 (7) Pittsylvania Co.;

Va.—**W. E. Graham & Sons,** Box 268, Cleveland, N. C. LB **$1,986,603** (10 bidders) 3.58 mi. grade, drain box culverts and service roads beginning Tenn. State Line ending 3.73 mi. E. of Tenn. State Line, Rte 81. State Proj. 0081-095-013G-1,040-041-042-043, Old State Proj. 8095-13-40-41-42-43, Fed. Proj. 1-81-1 (7) 0, Washington Co. CD 10/10.

▲ **VIRGINIA**—Commonwealth of Va., Dpt. Hys., 1221 E. Broad St., Richmond, Bids opened 10/21.

Va.—**Wiley N. Jackson Co.,** Box 1408, Roanoke, Va. LB **$967,681** (11 bidders) 7 bridges beginning Tenn. State Line ending 3.73 mi. E. Tenn. State Line, Rte 81, State Proj. 0081-095-005-006-007-008-017-018-019. Old State Proj. 8095-05-06-07-08-17-18-19. Fed. Proj. I-81-1(7) 0, Washington Co.;

Va.—**F. W. Dodson,** Fisherville, Va. LB **$141,552** (10 bidders) bridge over Middle River and approaches. Rte 616, State Proj. 0616-007-032-033, Fed. Proj. S-1021 (1) Augusta Co. CD 10/10.

▲ **NORTH CAROLINA**—State Hy. Comn., Raleigh,

**Nello L. Teer Co.,** Box 1131, Durham, N. C., CA **$2,754,060,** est. over $500,000 CABC 9 in. concrete pavement and shoulder constr. 17.1 mi. surf. relocation U. S. 301 from N.C. 50 in Bensen to U.S. 70-A south of Salem, Proj. 8.12343 1-95-2 (11) 80, Johnson Co. Awarded Oct. 15. CD 9/26, under LB.

▲ **SOUTH CAROLINA**—State Hy. Dpt., Hotel Jefferson, Columbia,

S. C.—**Dickerson, Inc.,** Box 448, Monroe, N. C. CA **$789,784,** wid'n. and b. conc. surf. 16.291 mi. State Rte. 72 from U. S. Rte. 221 to State Rte. 56 at Clinton, S. C. Docket No. 30.379, F. A. Projs. Nos. DF 237 (4) & DF-336 (5) Laurens Co.;

S. C.—**York Constr. Co.,** P. O. Box 68, York, S. C. CA **$533,508,** wid'n., and b. conc. surf. 9.373 mi. State Rte. 49 from State Rte. 92 near Union to Lockhart, S. C. Docket No. 44.309, F. A. Proj. DS 329 (4), Union Co. Bids Aug. 19. CD 8/27, under LB.

▲ **LOUISIANA**—State Dpt. Hys., Hy. Office Bldg., Baton Rouge,

**T. L. James & Co., Inc.,** Box 531, Ruston, La. CA **$2,397,940,** c. conc. pavement, bit. hot mix on aggreg. type base course for main roadways 4.898 mi. Avondale Marrero Hy. Rte. LA 3019, SP No. 283-99-04 FAP Nos. F-409 (9) and U-409 (8), Jefferson Parish. Bids Aug. 20. CD 8/28, under LB.

▲ **KENTUCKY**—Commonwealth of Ky., Dpt. Hys., Frankfort, Bids opened 10/17,

Ky.—**Oman Constr. Co., Inc.,** P. O. Box 146 and Acklen Park, Nashville 2, Tenn. LB **$1,540,101** (6 bidders) grade, drain 4.907 mi. Covington-Lexington Interstate, I 75-7 (7) 165, SP 8-550 & SP 59-675, Boone and Kenton Counties; LB **$1,981,646** (7 bidders), grade, drain, 8 structures 4.526 mi. Louisville-Lexington Interstate, I 64-2 (5) 17, Jefferson Co. CD 9/24.

Ky.—**Wood & Bush Co.,** 410 Ann St., Frankfort, Ky. LB **$1,315,160** (2 bidders), high type surf. 2.401 mi. Morehead-Olive Hill-Grayson Rd. from Ky. 174 near S.W.C.L. of Olive Hill, F-FG 13 (8), Carter Co.;

Ky.—**R. C. Durr,** Rte. 1, Walton, Ky., LB **$1,645,225** (6 bidders) grade, draining, surf. 3.984 mi. Covington-Lexington Rd. Interstate and 2 bridges, I 75-7(9)169, SP 8-55, Boone Co. CD 9/24;

Ky.—**Middle West Roads Co.,** P.O. Box 51, Louisville 13, Ky., LB **$282,452** (2 bidders) bit. surf. 22.929 mi. various roads, RS Group 102 (1958), Graves Co. CD 10/1.

▲† **Blount Bros. Constr. Co.,** 79 Commerce St., Montgomery, Ala. CA **$1,797,395.** constr. 2nd increment, plenum excavation sys. for propulsion wind tunnel at Arnold Engineering Development Center, this will suck out shock waves to achieve true picture of windflow around the test object, TULLAHOMA, TENN. U. S. Eng., Tullahoma, Tenn. Bids Oct. 8. CD 10/14, under LB.

## BUILDINGS—LB & CA

▲ **T. A. Loving & Co.,** Hy. 1-A North, Goldsboro, N. C., LB **$1,133,900,** Y.M.C.A. BLDG., RALEIGH, N. C. Young Men's Christian Assn., Wyatt Taylor, dir., 7 E. Edenton St., Raleigh, N. C. Bids 10/15. CD 9/19.

▲ **Perdue & Williams,** 790 Fulton Ave., Macon, Ga., LB **$1,014,189,** Houston Co. HOSPITAL, GA 220, WARNER ROBINS, GA. Houston Co. Hospital Auth., Office Bldg., Perry, Ga. Bids Oct. 16. CD 10/2.

▲ **John B. Orr, Inc.,** 485 NW 54 St., Miami, Fla., CA **$1,644,480,** North Dist. HOSPITAL, Sample Rd., POMPANO BEACH, FLA. Broward Co. Bd. Hospital Comrs., 1612 SE 1st Ave., Fort Lauderdale, Fla. Bids Oct. 2, awarded Oct. 15. CD 10/10.

# MIDDLE WEST

## HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

November 5 Michigan

STREETS AND ROADS

November 5 Michigan

▲ **O., Cincinnati**—BA 11/18—City, City Hall, Muddy Creek Sewage Works, Contr. 1. $2,000,000. Plans deposit $25. CD 3/12/57.

## HEAVY CONSTRUCTION—LB & CA

▲ **WISCONSIN**—State Hy. Comn., State Office Bldg., Madison,

Wis.—**L. G. Arnold, Inc.,** 2011½ N. Dewey St., Eau Claire, Wis. CA **$1,060,755,** concrete paving 7.326 mi. Hudson-Eau Claire (Hammond-Woodville Sect.) Road, Proj. I-94-1 (29) 16, Contract 1, Croix Co.;

Wis.—**C. C. Linck,** 1226 N. Center St., Beaver Dam, Wis., CA **$140,652,** base and concrete paving 0.846 mi. North Center St., City of Beaver Dam, S.T. Hy. 33, Proj. DU 029-1 (18) Contract 1, Dodge Co. Bids Oct. 14. CD 10/17, under LB.

▲ **WISCONSIN**—State Hy. Comn., State Office Bldg., Madison,

**Wunderlich Brothers & Wieseler Constr. Inc.,** 2-1 E. College Ave., Appleton, Wis., CA **$1,001,728,** grading, base, Structure B-44-16 and c. conc. 0.539 mi. The John St. Bridge and approaches, County Trunk Hy. Z, City of Appleton, Proj. T-0396 (1), Outagamie Co. Bids Oct. 2. CD 9/10.

▲ **MICHIGAN**—State Hy. Dpt., Stevens T. Mason Bldg., Lansing, Bids opened 10/8,

Mich.—**Holloway Constr. Co.,** 29350 Joy Rd., Livonia, Mich., LB **$1,313,366,** two-mi. dual-lane divided hy. U.S. 27 Ithaca By-Pass, incl. dual-structure 134 ft. bridge to carry northbound and southbound roadways over Washington incl. ramps for connections to existing U.S. 27, Gratiot Co.;

Mich.—**Cooke Contg. Co.,** 1116 Penobscot Co., Detroit, Mich., LB **$99,414,** 1 mi. grading, drainage work, wid'n. and concrete surf. FAS Rte. 827 from 1 mi. north of 8-Mile Rd. northerly, LB **$102,157,** 0.9 mi. grading, drainage work and concrete pavement FAS Rte. 827 from 2 mi. north of 8-Mile Rd. northerly, both in Oakland Co.;

Mich.—**Sargent Constr. Co.,** 2840 Bay, Saginaw, Mich., LB **$1,004,961,** conversion of joint M 46-M 47 into four-lane divided hy. from Graham Rd. east to Tittabawassee River, Saginaw Co. CD 9/30;

Mich.—**L. A. Davidson,** 213 E. St. Joseph, Lansing, Mich., LB **$96,721,** ½ mi. grading, drainage and concrete pavement on Northville Rd. at approaches to Rouge River Bridge 0.2 mi. south Seven-Mile Rd., Wayne Co.;

Mich.—**H. C. Shingledecker,** 2339 Orchard Lake Rd., Pontiac, Mich., LB **$172,786,** 1 mi. grading, drainage, concrete pavement FAS Rte. 20 from US 24 northwesterly, Wayne Co.;

Mich.—**Bluewater Excavating Co.,** 1821 Elmwood, Port Huron, Mich., LB **$161,415,** reconstr. work at two US 25A intersections north of Port Huron consisting constr. islands and medians to channelize traffic at intersections and at jct. US 25A and M 51, St. Clair Co.

## BUILDINGS—LB & CA

▲ **Humel Constr. Co.,** 17706 Miles Ave., Cleveland 28, O. CA **$1,185,000,** JUNIOR HIGH SCHOOL, SOUTH EUCLID, O. South Euclid-Lyndhurst Bd. Educ., 4777 Farnhurst Rd., South Euclid, O. Awarded 10/18. CD 10/21, under LB.

▲ **Wayne Gish Constr. Co.,** State Rte. 168, Medina. Own Forces. $1,500,000. 75 HOMES, Rexwood acres, Rte. 162, MEDINA, O.

▲ **Allied Constr. Co.,** 120 LaSalle St., Chicago, Ill., CA **$1,500,000,** 6 story, bsmnt., Envoy HOTEL, incl. cocktail lounge and 2 dining rooms, Harrison St. and Michigan Ave., CHICAGO, ILL. A. K. Gianaras, c/o Camburas & Theodore, archts., 105 W Madison St., Chicago, Ill.

▲ **Gelbhard-Berghammer, Inc.,** 5420 W. State St., Milwaukee, Wis., CA Est. **$1,750,000,** general contract DAIRY PLANT, WEST ALLIS, WIS. Borden Co., 620 N. 8 St., Milwaukee, Wis. CD 8/12.

# WEST OF MISSISSIPPI

## HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

November 6, 7 Kansas — November 12, 13 Texas

STREETS AND ROADS

November 6, 7 Kansas — November 12, 13 Texas

## BUILDINGS—BA

**Neb., Omaha**—SCHOOL—BA 11/5—Bd. Educ., 39th St. and Davenport, Omaha 31, Benson High School Bldg. addn. $950,000. Cecil A. Martin, 503 Karback Block, Zone 2, archt. CD 12/19.

**Minn., Hopkins**—SHOP, etc.—BA 11/12—Hennepin Co., county highway department shop and administration bldg. $900,000. Liebenberg & Kaplan, 51 South 13th St., Minneapolis, Minn., archts. CD 2/13.

**Tex., Birdville**—SCHOOL—BA 11/18—Birdville Ind. School Dist., three 1 story masonry, concrete steel elementary schools. $825,000. Plans deposit $25. Preston M. Geren, 1607 Fort Worth National Bldg., Fort Worth, archt. CD 8/12.

▲† **Tex., El Paso**—HOUSING—BA 11/26—U. S. Eng., Box 1538, Albuquerque, N. M., constr. 410 Capehart Housing Units, Fort Bliss, ENG-29-005-59-78. Extended date. CD 10/8.

▲ **Tex., Houston**—OFFICE—Bids Asked—Melvin A. Silverman, Builder, 2923 Shenandoah St., 10 story tower office. $1,500,000. CD 10/22.

## HEAVY CONSTRUCTION—LB & CA

▲ **Foley Bros., Inc.,** New York Bldg., St. Paul, Minn., CA **$4,238,661,** general constr. main structure and elevated runway of Administration-Terminal Bldg. at Wold-Chamberlain Field, MINNEAPOLIS, MINN. Minneapolis-St. Paul Metropolitan Airports Comn., 2429 University Ave., St. Paul, Minn. Bids Oct. 9. CD 10/14, under LB.

**R. L. Anderson-Cherne, Inc.,** 5060 Excelsior Blvd., Minneapolis, Minn., CA **$766,100,** plumbing and heating in Administration-Terminal Bldg., Wold-Chamberlain Field, (Minneapolis, Minn.).

**Purtzer & Dutton,** Norton, Kan., LB **$911,879,** est. $870,000 (8 bidders) WW imprvs., addn. to city's treatment plant and booster pumping station, ABERDEEN, S. D. City, City Hall, Aberdeen, S. D. Bids Oct. 14. CD 9/25.

▲† **Bauer Smith Dredging Co., Inc.,** Port Lavaca, Tex. LB **$2,057,840,** dredging modified route of main channel between Aransas Bay and Corpus Christi Bay, ENG-59-20, TEXAS. U. S. Eng., Box 1299, Galveston, Tex. Bids Oct. 15. CD 9/25.

## BUILDINGS—LB & CA

▲ **D. L. Witcher, Inc.,** 440 2nd Ave. South, Minneapolis, Minn., LB **$996,471** (14 bidders), general constr. SERVICE BLDG. No. 2 at Brainerd State School and Hospital, BRAINERD, MINN. State Dpt. Admin., 19 State Capitol, St. Paul, Minn. Bids Oct. 15. CD 9/17; **A. Newman Htg. & Plg.,** 1608 Como Ave., St. Paul, Minn., LB **$427,850,** plumbing, heating, refrigeration and ventilation for Service Bldg. No. 2, (Brainerd, Minn.).

▲ **McKenzie-Hauge-Gilles Co.,** 1116 Flour Exchange Bldg., Minneapolis, Minn., CA **$1,500,000** design and construct 1 story, 22 x 35 ft., rein.-concrete WAREHOUSE 168 ft. high, and 2,800,000 bu. capacity GRAIN ELEVATOR, 266 Upper Afton Rd., ST. PAUL, MINN. Farmers Union Grain Terminal Assoc., Snelling and Larpenteur Aves., St. Paul, Minn.

▲ **Harmon Constr. Co.,** Box 1414, Oklahoma City, Okla., CA Est. **$1,500,000,** 10 story, 100,000 sq. ft. APARTMENT, 25x60 ft. swimming pool, West Markham, near Hayes St., LITTLE ROCK, ARK. Plaza Towers, Inc., Walter C. Mason, Jr., Rivercliff Apartments, Little Rock, Ark., Bond & Ost, 4985 Summer Ave., Memphis, Tenn., archts.

▲ **M. Z. Collins,** Box 815, Austin, Tex., LB **$1,008,333** general constr. Riverside HIGH SCHOOL, AUSTIN, TEX. Austin Ind. School Dist., Austin, Tex. Bids Oct. 16. CD 9/30.

▲ **Brown & Root, Inc.,** Box 3, Houston, Tex. CA Est. **$5,000,000.** acetic acid PLANT, PAMPA, TEX. Celanese Corp. of America, Pampa, Tex. CD 5/22/52.

# FAR WEST

## HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS

BRIDGES

November 19, 25 California

STREETS AND ROADS

November 6 Nevada — November 19, 20 California

## BUILDINGS—BA

▲ **Wash., Issaquah**—COLLEGE ADDNS.—BA 11/13—Sisters of Charity of House of Providence, 4831 35 Ave. S. W., Seattle, eight 200,000 sq. ft. rein.-con. Providence Heights College bldgs., incl. water tank and sewerage sys. $4,000,000. J. W. Maloney, Central Bldg., Seattle, Zone 4, archt. CD 9/19.

▲ **Calif., Tracy**—RECEPTION-GUIDANCE CENTER—BA 11/25—State Div. Architecture, 1120 N. St., Sacramento, reception-guidance center at Deuel Vocational Institution consisting of two 3 story about 80,000 sq. ft. floor area cell blocks, administration and vocational training bldg., W.O. 4004GC-1. $1,871,000. Plans deposit $100. CD 7/24/57.

† **Nev., Reno**—OFFICERS QUARTERS—BA 12/2—U. S. Eng., 1209 8th St., Sacramento, Calif., 3 two story, concrete block officers quarters consisting walks, curbs, gutters, water heat distr., sewer storm drainage and elec. facilities, lawn seeding, ground cover, landscaping, Stead Air Force Base, Spec. 2448, ENG-04-167-59-19. $800,000. CD 9/11.

### HEAVY CONSTRUCTION—LB & CA

▲ Exposition Recreation Comn., Park Bldg., Portland, Ore., rejected bids Oct. 8, Exposition Recreation Center, PORTLAND, ORE.; New bids about Jan. 5 on revise plans. CD 10/10, under LB.

▲ CALIFORNIA—State Div. Hys., 120 S. Spring St., Los Angeles,
Guy F. Atkinson Co., 10 W. Orange Ave., South San Francisco, Calif. CA $4,957,417, grading, paving, structures for 2.3 mi. San Diego Freeway in Los Angeles and Culver City, incl. 10 bridges and 19 rein.-con. retaining walls, Los Angeles Co. Bids opened Oct. 2, awarded Oct. 20. CD 10/7, under LB.

† L. A. & R. S. Crow, 5201 San Fernando Rd., Los Angeles, Calif. CA $840,267, levee constr. (piping, gate river unit, slide gates, fencing, etc.) Sidds Landing to Oro Bend, Glenn Co., ENG-04-167-59-4, Spec. 2457, CALIFORNIA. U. S. Eng., 1209 8th St., Sacramento, Calif. Bids Oct. 2. CD 10/7, under LB.

### BUILDINGS—LB & CA

▲ Utah Constr. Co., 100 Bush St., and Haas & Haynie, 244 Pine St., San Francisco, Calif. CA Est. $4,500,000, underground PARKING GARAGE in Civic Center, SAN FRANCISCO, CALIF. San Francisco Civic Plaza Parking Corp., c/o City of San Francisco, City Hall, San Francisco, Calif. John J. Gould & H. J. Degenkolf, 149 California St., San Francisco, Calif., engrs.

▲ Albert Reingardt, 3631 Atlantic Ave., Long Beach, Calif. CA $1,017,760. Johnson Intermediate SCHOOL, WESTMINSTER, CALIF. Westminster School Dist., 1411 Cedarwood Ave., Westminster, Calif. Bids Sept. 30. CD 9/10.

## CANADA

### HEAVY CONSTRUCTION—BA

STATE HIGHWAY LETTINGS
STREETS AND ROADS
November 5, 12, 19 Ontario

### HEAVY CONSTRUCTION—LB & CA

▲ E. G. M. Cape & Co. Over (1956) Ltd., 4898 Western Ave., Montreal, Que., Ca over $1,000,000, tanker wharf in connection with oil refinery proj., SAINT JOHN, NEW BRUNSWICK, Irving Oil Co. Ltd., main office, 71 Dock St., Saint John, N. B. Foundation of Canada Engineering Corp. Ltd.; 1980 Sherbrooke St. W., Montreal, Que., engrs.

### BUILDINGS—LB & CA

Poole Constr. Co. Ltd., 10503 109th St., Edmonton, Alta. CA Est. $800,000 (13 bidders) 4 story, bsmnt., 84 x 216 ft., concrete, masonry FINE ARTS BLDG., Alberta College, EDMONTON, ALTA. Alberta College, 10041 101 St., Edmonton, Alta. Bids Oct. 9. CD 10/2.

▲ Dominion Structural Steel Ltd., 6894 Clanranald Ave., Montreal, Que., CA Tptal Est. $4,000,000, supply and erection steel superstructure, for 10 story HOTEL WING, Nova Scotian Hotel, Hollis St., HALIFAX, N. S. Canadian National Railways, A. V. Johnston, ch. engr., 355 McGill St., Montreal, Que. CD 7/9, under CA.

Charlton Court Apartments, 366 Adelaide St. E., Toronto, Ont., Owner Builds $900,000, two 4 story, 60 suites brick APARTMENTS, west end of Escleton Dr., TORONTO, ONT. John Daniels, 160 Wilson Ave., Toronto, Ont., archt.

▲ Shields Constr. Co. Ltd., 480 Lawrence Ave. W., Toronto, Ont. Owner Builds $1,000,000, 8 story, structural steel APARTMENT, incl. underground garage, 85 Lawton Blvd., TORONTO, ONT. Paul Sears, 1498 Yonge St., Toronto, Ont., archt. Alex Tobias & Assoc. Ltd., 194 Wilson Ave., Toronto, Ont., engrs.

Speckert-Morris Ltd., Hy. 7, Markham, Ont. CA $935,400, 2 story, bsmnt., 60 x 270 ft. and 50 x 70 ft. L-shaped brick, block, Duke of Cannaught SCHOOL, poured concrete fdns., TORONTO, ONT. Toronto Bd. Educ., 155 College St., Toronto, Ont. Awarded Oct. 17. CD 10/16, under LB.

▲ E. G. M. Cape & Co., (1956) Ltd., 4898 Western Ave., Montreal, Que., CA $1,800,000 (4 bidders), BOTTLING PLANT exten. at brewery, Notre Dame St. E., MONTREAL, QUE. Molson's Brewery Ltd., 1670 Notre Dame St. E., Montreal, Que. Bids Oct. 15, awarded Oct. 16. CD 10/14.

▲ Omega Constr. Co. Ltd., 6555 Cote des Neiges Rd., Montreal, Que., CA Est. $2,500,000, REHABILITATION CENTER, MONTREAL, QUE. Rehabilitation Institute of Montreal, 6265 Hudson Rd., Montreal, Que. Gagnier & Gagnier, 1449 Crescent St., Montreal, Que., archts. Lalonde & Valois, 615 Belmont St., Montreal, Que., engrs. Awarded Oct. 14. CD 5/24/55.

Vanguard Investment Corp., 5757 Dacelles Ave., Montreal, Que. Owner Builds $900,000, five 3 story, bsmnt., brick walls, 95 suite APARTMENT BLOCKS, concrete fdns., Grenet St., MONTREAL, QUE. H. M. Tolchinsky, 5810 Cote St. Luc Rd., Montreal, Que., archt.

## FOREIGN

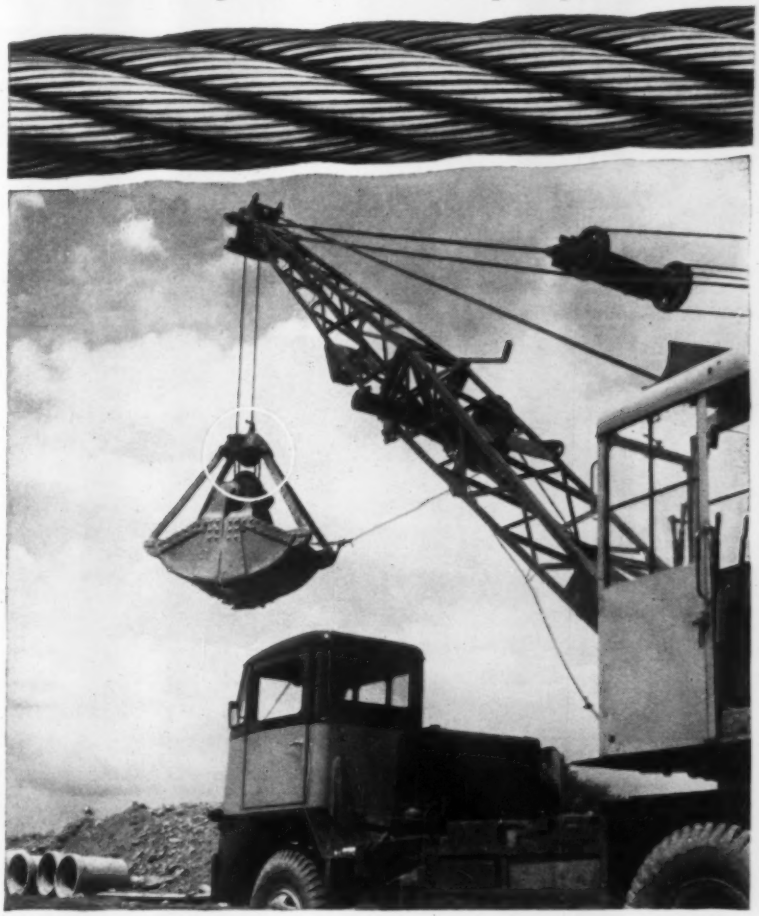
### HEAVY CONSTRUCTION—LB & CA

▲ Jugoinvest, Belgrade, Yugoslavia, CA $4,000,000, Karaoun Dam, Litany River Proj., LEBANON, Govt. of Lebanon, Beirut, Lebanon. CD 7/6/55.

(Proposal Advertisements see pp. 82 to 84)


# localized wear...

## is this your wire rope problem?



**FREE Red Strand Bulletin No. 106 tells how to lengthen wire rope service life when greatest wear is in specific areas**

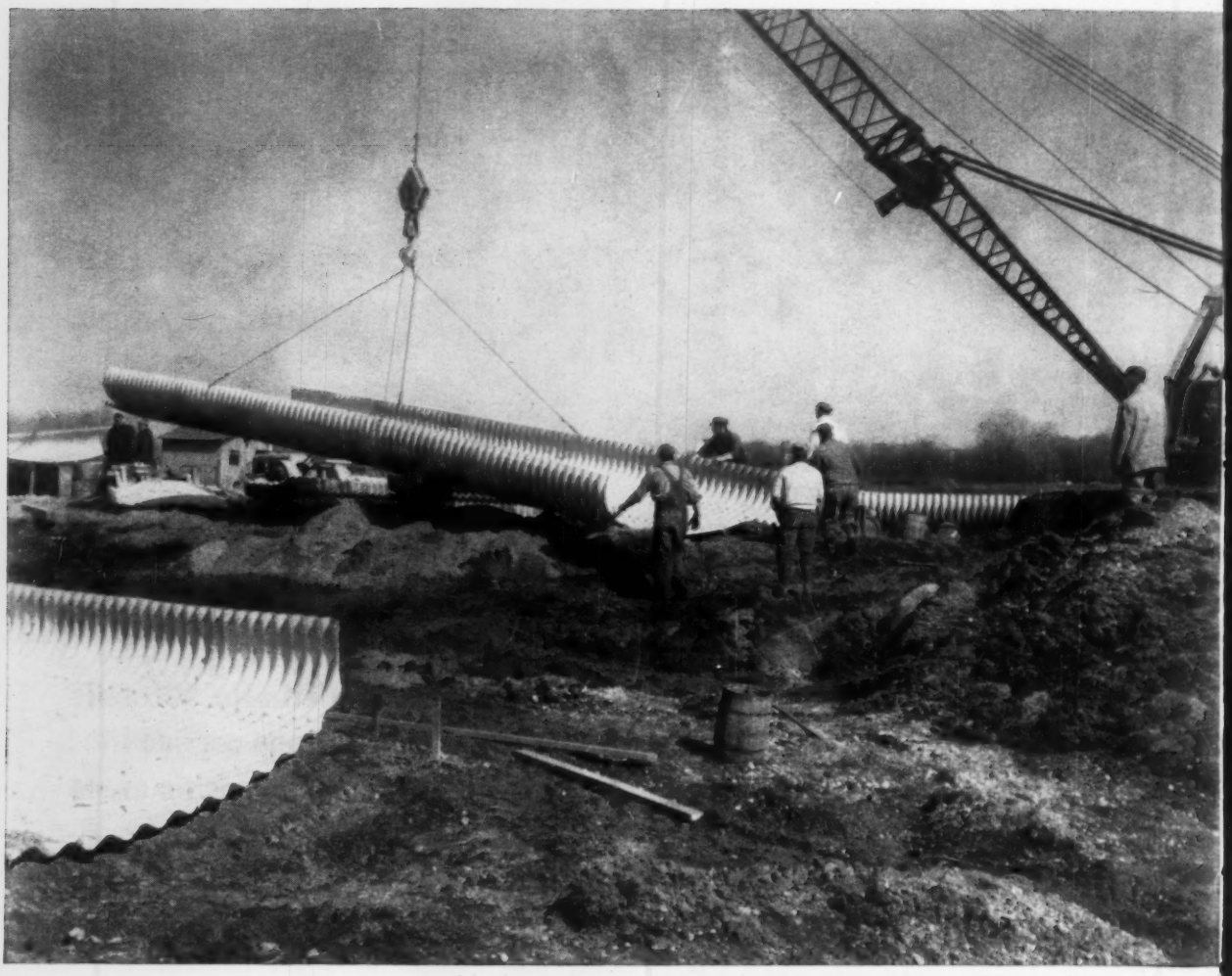
Why is it that wire rope is often severely damaged near one or both ends while the rest of it is perfectly sound? Obviously, you can't afford to discard the whole rope. So, what can you do to correct or compensate for this condition? These and related questions are fully answered in Service Bulletin No. 106, one of a series designed to help users get more efficient, more economical service from wire rope. Copies are sent free. Write H. K. Porter Company, Inc., Leschen Wire Rope Division, 2727 Hamilton Avenue, St. Louis 12, Missouri.

LESCHEN
Red-Strand
WIRE ROPE

**H. K. PORTER COMPANY, INC.**
LESCHEN WIRE ROPE DIVISION

# Look How Armco

## WORK COAST-TO-COAST



An important part of the Interstate Highway System, US 40 in Ohio gets the "divided highway treatment" north of Dayton. Despite wet weather, the contractor was able to speed work on a stream enclosure by partly assembling big Armco MULTI-PLATE Structures on the bank and lifting the assemblies into the new stream bed. Earth fill finishes the job of providing a modern, maintenance-free bridge.

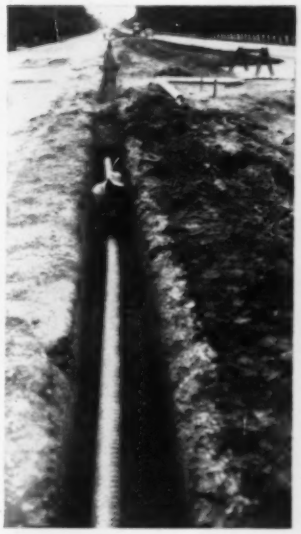
# Products
## ON US 40

Armco Retaining Wall controls slope below a wider Route 40 in Nevada.

Playing a big role in the modernization and relocation of Route 40 from New Jersey to California, Armco Construction Products are serving a wide variety of needs. In Maryland, for example, designers have provided for dry, stable subgrades with subdrainage systems of Armco Perforated Pipe. In California, you'll find an Armco MULTI-PLATE® Pipe under a 165-foot fill, installed as part of a project involving the biggest highway cut ever undertaken.

In Nevada, an entirely different kind of highway construction problem was solved with an Armco Product. A few miles east of Reno the mountainous terrain, plus a railroad right-of-way, restricted construction of a new dual roadway. The answer was an Armco Bin-Type Retaining Wall. It provides a "shelf" for the wider road, keeps the steep slope from encroaching on the railroad.

In addition, Armco Pipe Piling serves as the foundation for important new grade separation structures. Add the protection of strong, easy-to-see Armco FLEX-BEAM® Guardrail at many key locations along Route 40 and you have an idea of the variety and versatility of the family of Armco Construction Products. There are good reasons why they have won acceptance by the builders of the Interstate Highway System. Foremost—*they have been proved in service.* Write us for data or assistance with your specific construction project. Armco Drainage & Metal Products, Inc., 6098 Curtis Street, Middletown, Ohio. In Canada: write Guelph, Ontario.



Armco Perforated Pipe is installed for Route 40 subdrainage in Maryland.

Fill over this 72-inch MULTI-PLATE Pipe will be 165 feet when this US 40 project is completed in California.

Armco Spiral Welded Pipe Piling being driven for foundation of grade separation structure at Route 25 and Route 40 in Ohio.

**ARMCO DRAINAGE & METAL PRODUCTS**

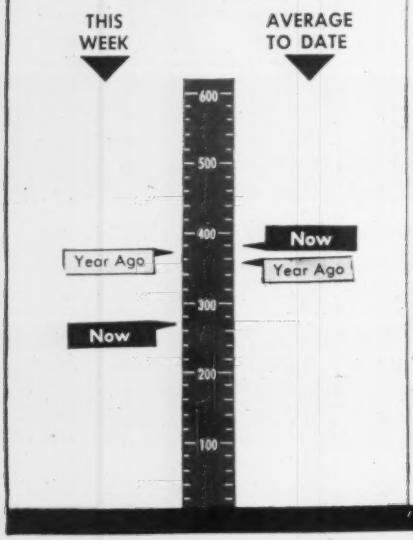
*Subsidiary of* ARMCO STEEL CORPORATION

OTHER SUBSIDIARIES AND DIVISIONS: Armco Division • Sheffield Division • The National Supply Company
The Armco International Corporation • Union Wire Rope Corporation • Southwest Steel Products

# Construction Scoreboard

## ACTIVITY THIS WEEK

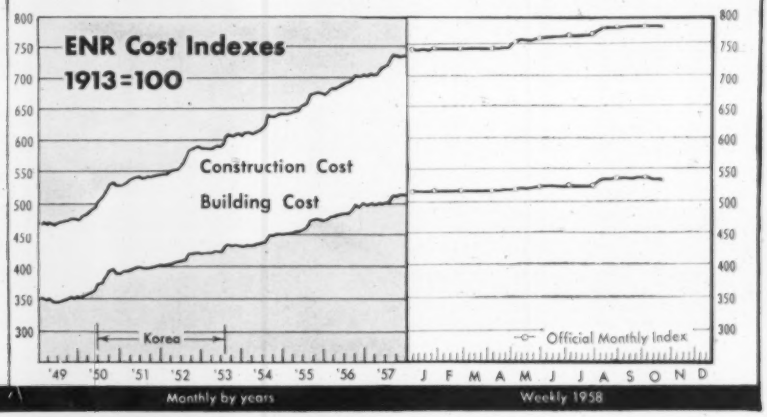
### Contract Awards
Millions of Dollars




## COST INDEXES AS OF NOW

| ENR INDEXES (1913=100), 20-cities' average | Week of Oct. 23 1958 | % Change from Sept. 25 1958 | % Change from Oct. 24 1957 |
|---|---|---|---|
| Construction Cost | 773.94 | −0.19 | +5.01 |
| Building Cost | 535.17 | −0.27 | +3.58 |

To convert above indexes to 1926 = 100: Divide Construction Cost by 2.080; Building Cost by 1.850
1949 = 100: Divide Construction Cost by 4.770; Building Cost by 3.518




## AMOUNT OF CONTRACTS LET

| By Ownership | This Week | Cum. 44 wks 1958 | Chge '57-'58 |
|---|---|---|---|
| | millions | | % |
| All Heavy Constr. | $273.0 | $16,701.0 | +6 |
| Private | 105.9 | 6,737.6 | −9 |
| Public | 167.1 | 9,963.4 | +19 |
| State & Municipal | 146.8 | 7,395.4 | +16 |
| Federal | 20.3 | 2,568.0 | +27 |
| **By Type of Work** | | | |
| Public | | | |
| Waterworks | 3.9 | 267.3 | −14 |
| Sewerage | 9.8 | 521.9 | +10 |
| Bridges* | 12.2 | 618.9 | +1 |
| Highways | 68.7 | 3,131.2 | +21 |
| Earthwork, Waterways | 7.6 | 933.2 | +4 |
| Buildings, Excl. Housing | 39.9 | 2,278.6 | +15 |
| Housing | 12.9 | 989.6 | +67 |
| Unclassified | 12.1 | 1,232.8 | +33 |
| Private | | | |
| Mass Housing | 39.4 | 3,246.4 | +23 |
| Commercial | 20.0 | 1,582.1 | +5 |
| Industrial | 40.3 | 1,536.9 | −45 |
| Unclassified | 6.2 | 362.1 | −23 |

* Includes private bridges.

NOTE: Minimum size projects included are: Waterworks and waterways, $44,000; other public works, $73,000; industrial buildings, $93,000; other buildings, $344,000.

## NEW CAPITAL FOR CONSTRUCTION

| | Week of Oct. 23 | Cum. 43 wks 1958 | Chge '57-'58 |
|---|---|---|---|
| | millions | | % |
| Corporate Securities | $16.7 | $4,379.7 | −10 |
| State and Municipal: | | | |
| All Except Housing | 103.2 | 5,273.6 | +14 |
| Housing | ... | 114.5 | −27 |
| Federal Loans | 1.7 | 167.4 | −5 |
| Federal Aid | ... | 2,596.1 | +20 |
| Total Nonfederal | $121.6 | $12,531.4 | +4 |
| Federal Appropriations: | | | |
| Projects in U. S. | ... | $3,946.1 | +42 |
| Outside U. S. | ... | 35.2 | +21 |
| Total New Capital | $121.6 | $16,512.7 | +11 |

## BACKLOG OF PROPOSED HEAVY CONSTRUCTION

| | September 1958 (millions) | Percent Change from last Month | Year |
|---|---|---|---|
| Total U. S. (ENR reported) | $112,631 | +1.0 | +2.7 |
| By Ownership— | | | |
| Private | 48,429 | +0.6 | +4.9 |
| State & Municipal | 50,128 | −0.2 | +1.0 |
| Federal | 14,074 | +7.3 | +1.2 |
| By Type of Work— | | | |
| Waterworks | 2,651 | ..... | +12.4 |
| Sewerage | 3,439 | +0.3 | +4.8 |
| Bridges | 3,318 | +0.1 | +1.8 |
| Highways | 12,915 | −0.7 | +1.2 |
| Earthwork, Waterways | 12,007 | +3.1 | −2.8 |
| Public Buildings | 20,206 | +1.8 | +1.2 |
| Industrial Buildings | 16,501 | +0.2 | −0.1 |
| Commercial Buildings | 21,988 | +0.9 | +10.6 |
| Unclassified, Private | 9,940* | +0.5 | −1.1 |
| Unclassified, Public | 9,666 | +2.3 | +1.2 |

*Includes private bridges $83 million

## FLOW OF NEW PROJECTS INTO THE BACKLOG

| | 1958 Sept. | 1958 9-months | Percent Change from '57 Sept. | Year Cum. |
|---|---|---|---|---|
| | (millions) | | | |
| Total U. S. (ENR reported) | $1,958 | $11,932 | +0.7 | −25.1 |
| By Ownership— | | | | |
| Private | 503 | 5,094 | −15.7 | −27.6 |
| State & Municipal | 399 | 4,974 | −2.2 | −32.7 |
| Federal | 1,056 | 1,864 | +12.5 | +24.2 |
| By Type of Work— | | | | |
| Waterworks | 16 | 404 | −67.4 | +14.4 |
| Sewerage | 47 | 476 | +95.8 | +9.7 |
| Bridges | 24 | 292 | +118.1 | −40.5 |
| Highways | 104 | 1,217 | +92.6 | −31.4 |
| Earthwork, Waterways | 405 | 559 | −3.8 | −72.3 |
| Public Buildings | 572 | 2,905 | +72.8 | −11.9 |
| Industrial Buildings | 89 | 893 | −68.4 | −64.0 |
| Commercial: Mass Housing | 138 | 1,647 | +19.0 | −5.2 |
| Other Building | 219 | 2,236 | +46.0 | +12.4 |
| Unclassified, Private | 57 | 317 | +18.8 | −61.7 |
| Unclassified, Public | 287 | 986 | −37.3 | −6.6 |

## FLOW OF PROJECTS OUT OF BACKLOG INTO CONTRACTS

| | | | | |
|---|---|---|---|---|
| Total U. S. (ENR reported) | 687 | 7,908 | +1.6 | +7.4 |
| By Ownership— | | | | |
| Private | 152 | 2,200 | −46.5 | −20.3 |
| State and Municipal | 447 | 4,230 | +30.3 | +20.1 |
| Federal | 88 | 1,478 | +76.0 | +37.0 |

# Small Business May Be Big Customer

## Capital bank plan may bring surge of contracts for small manufacturing and commercial buildings

The new federal program of capital banks to finance small business, approved by Congress this year, may be far more effective than anticipated. It first looked like just another gimmick that would provide little genuine help to capital-short small businesses. Now some observers consider it as potentially one of the biggest developments in business finance in many years.

ENR has already reported how these Small Business Investment Companies—or SBI's, as they are called—will help small contractors raise capital (ENR Sept. 11, p. 170 and Oct. 2, p. 19 and 84). The "small business" tag as it applies to contractors means those whose receipts were less than $5 million annually over the last three years.

The new SBI's also will aid construction in another way: by helping small businesses go ahead with building plans now balked by financing problems. They may open up a new market for construction of small factory and commercial buildings.

• **Plugs credit gap**—Our complex financial system has never developed a really satisfactory method of financing plant and equipment for small companies, especially those that want to expand fast. Generally they are limited to short-term credit from local banks, and even this source may dry up in times of tight money.

Most other financial institutions—savings banks, insurance companies, pension funds—follow conservative investment policies that rule out risky and unproven small enterprises. And high tax rates make it tough to hold on to profits and plow these back into the business.

So small firms must rely on short-term credit (at high interest rates) or on sale of stock. But stock issues for small companies can involve expensive underwriting fees. Moreover, many small businessmen don't like giving outsiders the voice in the business that goes with common stock.

The new SBI's will offer money to small firms in two ways:

• Long-term loans, running five to 20 years—with possible extension to 30 years—at maximum interest rates set by the Small Business Administration.

• Through buying convertible debentures, which will pay interest at first but can be exchanged for common stock later on.

Both methods will provide long-term funds for small businesses on better terms than most companies can now get.

• **Big help for many**—Most of the 4.3 million businesses in the U.S. qualify as "small business" under the terms of the government program. Latest available Census data show 98% of all manufacturing firms employ fewer than 250 people; 98% of all wholesalers sell less than $5 million in goods; and 99% of all retailers have annual sales under $1 million.

Only a small fraction of the eligible firms are expected to take advantage of the new SBI program. Some just don't have much interest in, or potential for, expansion. But the number of undercapitalized growth companies that will be aided still could be very large.

Chances are that loans made by the new SBI's will not be enough in themselves to finance major construction projects. No SBI can put more than 20% of its paid-in capital into a loan or investment in any one firm. So the maximum SBI loan is likely to run between $50,000 and $100,000. However, an SBI can join with other SBI's or financial institutions to make larger loans.

• **Larger loans possible**—The act setting up the SBI program provides another source of funds for larger loans. The Small Business Administration is authorized to make loans to state and local development companies which, in turn, can lend money to all businesses. These loans may run up to $250,000 each, and they must be for plant construction, conversion or expansion.

State and local development companies already are active in New England and the Southeast. They are established by local governments and financial institutions to attract business firms to their areas through such devices as building plants, which they sell or rent to a business at a low price. The development companies will be able to expand their activities under the new program by making low-interest loans.

Although interest in the new SBI program has been picking up steadily since it was approved by Congress, debate continues on the value of the projected capital banks. Congress voted only $50 million to start the program. And individual loans may be too small to finance much construction.

However, the program could easily prove to be a big aid to construction of industrial and commercial facilities, for the addition of a small amount of long-term capital from an SBI may provide enough, along with other resources, to enable a small business to go ahead with a building project. If the program takes hold on its presently conceived modest scale, it may well be expanded in the future.

## Computers Speed State's Highway Bid-Letting Work

Electronic computers are making a mole hill out of what once was a mountain of bid-letting paperwork in Michigan's highway department.

John C. Mackie, highway department commissioner, says the department launched the system last summer with equipment already available in its tabulating section.

Now the department finds the system does more work faster than the entire design staff. The department estimates it may save 15,000 man-hours per year. Instead of "literally squandering" design talent on time-consuming paperwork, the technicians are now free to do more important work to meet the demands of the state's expanding highway construction program.

Punch cards and IBM equipment check and tabulate contractor bids item-by-item. According to Mr. Mackie the machine is "practically foolproof." Use of the punched cards goes beyond the bid-letting stage. They supply bid price averages, which the department uses to check trends and make more accurate estimates of contract costs. Programing of available funds for future construction is also more efficient.

The system speeds tabulations needed by the U. S. Bureau of Public Roads before it gives the go-ahead signal for federal-aid jobs.

Eight other states—Washington, Arkansas, Florida, Alabama, Kentucky, Ohio, Texas and Virginia—report similar results (ENR Sept. 18, p. 77).

*(B&F continued on page 76)*

# Construction Swells Red-Ink Budget

**Highways get most of Massachusetts' $246 million building authorization; bonds will pay largest part**

The Massachusetts legislature adjourned last week leaving the state with an apparent deficit for the coming year of $30 million.

Authorized expenditures amount to $641 million. Of this, $246.1 million will go for construction that for the most part will be financed by bond issues. Several pieces of enabling legislation, involving no state appropriations or bond authorizations, may eventually result in upwards of $101 million of additional construction.

The largest single expenditure authorized is $200 million for highways, including federal-aid projects. The lawmakers also activated a community college construction and expansion program. Bond issues of $28.5 million were authorized for the program. That's $20 million less than original proposals called for.

Also authorized were $12.9 million in bonds for new construction and expansion of state mental institutions and $4.6 million for construction of state office building facilities.

• **Boost for Boston**—Much of the legislative action aimed at construction will provide a huge push for Boston. The enabling bills will help launch programs that have been bogged down by political controversy or by court actions.

A key piece of legislation is a bill transferring control of the Sumner Tunnel under Boston Harbor from the City of Boston to the Massachusetts Turnpike Authority. The bill also directs construction of a second tube within 18 months. An advance of $200,000 in state funds will pay for preliminary engineering. This work is expected to start next spring. The last unofficial estimate for the second tunnel places the cost at $49 million.

Transfer of the Sumner Tunnel to the authority calls for payment of $10.1 million to the city for the property. The authority will assume the $2.5 million debt still outstanding.

The Turnpike Authority also is authorized to pay up to 5% on any bonds it may sell in the future. The former maximum rate was 4%.

• **Garage comes to life**—Prospects are improved for the long-debated garage under Boston Common. The legislature authorized the establishment of a Parking Authority with power to sell revenue bonds to finance the facility. The three-man body got a $200,000 authorization to push the project.

Idea for the garage under the Common was advanced 12 years ago. But it's been stalled by several court actions to determine if the facility would violate the original land-grant deeding the Common to Boston. Cost of the garage is unofficially estimated at $12 million.

The legislature also authorized the establishment of a corporation to build a $20 million office building, which would be leased to the state by the corporation. Cost of construction would be paid by a revenue bond issue. Bonds would be retired and interest covered with the rent paid by the state. This building would be constructed in a proposed $150 million government office center in Boston.

A new Boston City Hall is also among the buildings planned for the center. The legislature authorized the city to sell $20 million in bonds to pay for the structure.

Boston's Planning Department is now working on the final mappings of the office center. It will tie into the present Beacon Hill area, which contains the State House and state court buildings.

# Equipment Prices Climb

**Major firms announce hikes on most lines of machinery; other companies to follow soon**

Contractors will be paying more for the equipment they buy. The new and higher prices end a 12-month period of price stability. It's been the longest such period since 1954.

Key equipment manufacturers have already announced their products will cost more. Several others are expected to boost their prices soon.

**Blame for the increases is generally placed on higher costs of steel and labor. Price hikes also have been encouraged by improvement in sales.**

Last week, International Harvester jumped its construction equipment prices an average of 3.8%. Crawler tractors are up 5% and rubber-tired rigs are up 5.8%, except for one model. The company's heavy-duty truck prices took three separate paths: Some were raised, some were lowered, others remained unchanged. It averages out to a hike of 2.5%.

Also more expensive now is equipment made by Euclid Division of General Motors Corp. and by Bucyrus-Erie.

Euclid prices are higher by 4.7% to 5.1% on rear dump off-highway trucks of 10 to 10.5 cu yd capacity. Larger models are up in price by 5% to 7%. The division's tractor scrapers rose 2.4% for the 16 cu yd model, 4.6% for the 25 cu yd machine and 3.3% for the 32 cu yd S-24 model. The firm also hiked the price of its twin engine TC-12 crawler tractor by 3%.

Bucyrus-Erie crawler power shovels are up an average of 3%.

Concrete batching and finishing equipment prices were raised 5% by Heltzel Steel Form & Iron Co.

• **Still to come**—Several other manufacturers have not yet moved along the price front, but more announcements are expected in the next few weeks.

Baldwin - Lima - Hamilton power shovel prices are likely to go up next month. Increases may range from 2% to 5%, depending on the rig.

Still to act is Marion Power Shovel. And Barber-Greene anticipates a price hike, although nothing definite is indicated yet. Harnischfeger expects to announce a price increase within a few weeks on its shovels and cranes.

Prices of construction machinery manufactured by Allis-Chalmers, Blaw-Knox, Caterpillar Tractor and Mack Truck have not changed. But two of these firms are involved in labor contract negotiations. A third, Mack Truck, was struck for about one week and only resumed normal operations on Monday.

Caterpillar plants are shut down. And Allis-Chalmers, although operating on three shifts, is conducting contract talks.

The contracts signed, and those to be signed, may influence prices of new equipment soon.

LeTourneau-Westinghouse Division of Westinghouse Air Brake says it does not anticipate any changes in its construction equipment prices.

# Levitt Discrimination Hearing Scheduled

**New Jersey agency says informal attempts to obtain sales policy reversal at Levittown III have failed**

Mass builder William Levitt is scheduled to answer charges next month that his company refuses to sell houses to Negroes in New Jersey's Levittown III. The state's Division Against Discrimination will air the issue at a public hearing November 14 in Trenton.

The hearing will climax nearly five months of informal efforts by the state to get Levitt & Sons, Inc., to reverse its sales policy.

The controversy broke out in June when Mr. Levitt announced that his New Jersey development would be an all-white community (ENR June 12, p. 21). Norman P. Mason, Federal Housing Administration Commissioner, was drawn into the hassle when FHA was asked to refuse mortgage insurance commitments on Levittown III houses unless Mr. Levitt abandoned his announced policy (ENR July 3, p. 82). But Mr. Mason said it was not up to his agency to enforce state laws.

Notice of the scheduled hearing came the week the firm announced the first 50 families were moving in. By February the population is expected to be between 3,500 and 4,000.

• **Conciliation efforts fail**—The Division Against Discrimination has been meeting with Levitt since early July in an effort to reach agreement. Last week a spokesman for the agency said the announcement of a public hearing is "acknowledgement that conciliatory efforts have failed and that Levitt would not enter voluntarily into an agreement to reverse an alleged policy of discrimination."

Complainants are Franklin D. Todd and Willie R. James, both of Burlington, N. J. They charge they were "denied the opportunity to purchase a home in the Levittown III development."

The hearing will seek to determine whether or not Levitt has violated the state's anti-discrimination laws. If the charges are upheld, a cease and desist order will be issued by the courts. Failure to abide by the order can result in contempt of court action.

A spokesman for the company said, "We have no comment at this time."

This is not the first time Mr. Levitt and his company have been involved in an anti-discrimination action. In 1955, a U.S. District Court dismissed a suit aimed at compelling sale of a new house to a Negro in the Pennsylvania Levittown. In that case, the house had an FHA mortgage insurance commitment. It was charged, therefore, that the complainant's federal rights were violated by the Levitt company's refusal to sell.

• **Similar laws elsewhere**—New Jersey is one of five states that have anti-discrimination laws affecting private housing. The others are New York, Massachusetts, Oregon and Washington.

In Rhode Island, an anti-discrimination housing law will be introduced at next year's legislative session. The bill would outlaw discrimination in almost all types of private rental and sale housing. Only housing owned by religious and charitable organizations would be exempt from the proposed statute. Sponsor of the bill is a new organization called Citizens United for a Fair Housing Law.

Both the state Democratic and Republican party platforms support legislation of this type.

# New Cement Plant Proposed

Lower cement prices may be ahead for contractors on the East Coast if plans of a Boston industrialist are realized.

Alfred S. Black, head of the newly established New England Portland Cement Co., says he will use coastal-water barges to ship cement clinker produced in Rockland, Me., to finishing plants he plans to build at various points along the Eastern Seaboard. Key to this projected economy is the use of water transportation instead of overland facilities.

Depending on operating costs of the plants, Mr. Black believes water transportation will extend the shipping range for the company's product well beyond the present practical limits of rail transportation. Mr. Black says this limit is now approximately 200 miles.

• **Agreements signed**—The company holds options on large land tracts in Rockland. The land, containing heavy limestone deposits, extends along Route 1, north of the present holdings of Dragon Cement Corp. Exact location and amount of optioned land haven't been disclosed.

One of the finishing plants will be located at Providence, R. I. The firm has a lease on 293,600 sq ft on the city-owned Municipal Wharf. Mr. Black plans to construct a $1.5 million plant on the wharf.

• **Usage**—In this area the clinker will be received, pulverized, bagged and distributed as finished cement. Cement clinker can be stored outdoors without damage and it can be handled at the dock as bulk cargo at less cost than the bagged and finished cement product.

Mr. Black's agreement with Providence calls for a rent of $1,000 a month starting next year. Rent can go as high as $27,180 annually in 1960, plus additional fees on tonnage received at the wharf during the term of the 20-year lease.

Mr. Black told Providence officials he planned similar facilities in the New York and Chesapeake Bay areas. But he would not disclose details because financing for both the Rockland and Providence operations is being negotiated.

Mr. Black estimated that investments in Maine and Providence alone will total about $25 million.

## Machinery Distribution Gets College Education

Clarkson College of Technology, Potsdam, N. Y., initiates a new course of study next year—training in marketing earthmoving machines and other types of construction equipment.

William G. Van Note, president of Clarkson, says the new curriculum will lead to a bachelor of science degree. The course, to start in September 1959, is "Construction Equipment Distribution."

Associated Equipment Distributors has approved and supported the planning and establishment of the new program, Mr. Van Note says.

The curriculum will be administered by the college's Department of Industrial Distribution.

In addition to courses on equipment, the program will include soils engineering, transportation and public service facilities, and construction organization. A course in civil engineering will be included in the last two years.

*(B&F continued on page 78)*

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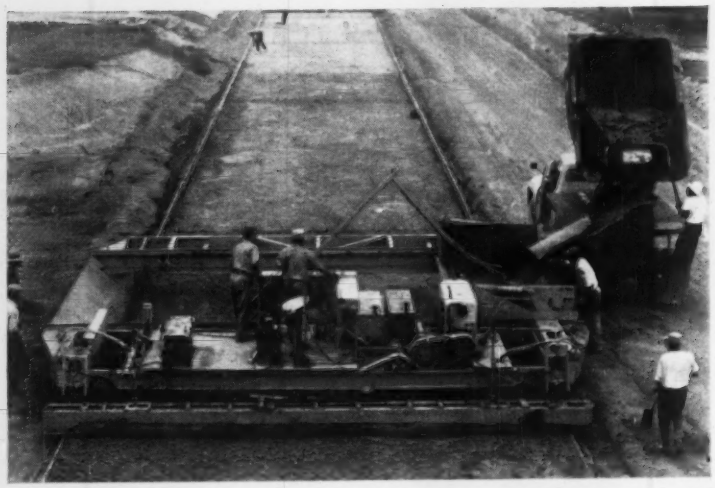

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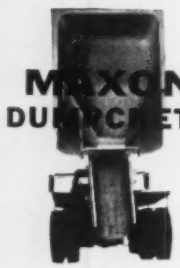


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# Mostly Talk

### Federal sales tax proposal not expected to be passed by next year's Congress

The highly controversial manufacturers' federal sales tax is a live subject again in Washington. It is proposed as a method of easing the government's financial woes.

But the idea is not likely to get far in Congress. There will be more smoke than fire.

The Administration will not back such a proposal—or any other big tax changes. However, proponents of the federal sales tax—otherwise known as a general manufacturers' excise tax—expect to make some progress. At least the idea will get lots of public attention during the hearings and investigations on this and other tax matters.

Some support for the tax even came from within the Administration. Commerce Secretary Sinclair Weeks recently advanced the idea. (Since then, Mr. Weeks announced his resignation to become effective November 10. His successor will be Lewis L. Strauss, former chairman of the Atomic Energy Commission.) Vice-President Nixon also came out for such a tax last summer.

While Secretary Weeks emphasized he was speaking for himself and not the Administration, his suggestion underscores the seriousness with which the government is contemplating its financial problems.

Mr. Weeks said he was concerned that 80% of the government's revenue comes from income taxes. And these are too dependent on ups and downs in the economy. The government now is faced with a possible $12 billion deficit this fiscal year. A large part of the deficit results from a drop in revenues stemming from the recession.

The Treasury says it has no plans to offer such a proposal at this time, but the Congressional Joint Internal Revenue Committee is making a study for Harry F. Byrd, chairman of the Senate Finance Committee.

Sen. Ralph Flanders (R., Vt.) has already introduced a proposal for a 3½% manufacturers excise to be levied on all goods produced at the factory. His plan would eliminate all other excises except those on tobacco, liquor and highway taxes and replace them with with the general tax. Only exceptions would be food, medicine and certain farm implements. The Commerce Department figures this would bring in revenues of slightly over $4 billion.

# Boycotts Will Get an Airing

## Senate investigation of secondary boycotts will merely scratch the surface of a very tough problem

The McClellan committee is about to face one of the most complex and sensitive issues on the labor front. It's scheduled to open an investigation next month of secondary boycotts.

**For the construction industry, it's apt to be the most significant of the committee's activities. And it can have a lot to do with the fate of labor legislation in the next session of Congress.**

What makes it such a significant issue? The answer lies in its scope. Few other labor problems affect so many so much or cut so deeply into the interests of the public, labor and management.

In the construction industry, which spawned 44% of last year's boycott charges, the issue covers a field strewn with Kohler plumbing fixtures and Burt ventilators, prefabricated building materials, nonunion products and hot cargo clauses. It plagues both union and nonunion contractors, hits union by-laws and working rules, affects union efforts to organize and plays a role in the jurisdictional conflict between the building trades and industrial unions. It's a big factor in the right-to-work fight, it's been a key issue in President Eisenhower's labor legislation proposals and it helped defeat the Kennedy-Ives labor bill.

**The basic issue around which the McClellan committee investigation centers is abuse of union power. In legislative terms, the ultimate question will be this: should further curbs be placed on labor by outlawing all secondary boycotts?**

Congress, in a sense, created the problem when it drafted the Taft-Hartley Act. It didn't mention secondary boycotts at all. But it wanted to protect the public and neutral employers against labor disputes not of their own making. So it threw some language into the section on unfair labor practices that has troubled the courts ever since.

It simply told each union it can't extend the area of a labor dispute by getting employees of neutral employers to strike. Nor can unions refuse to handle certain products in order to force those neutral employers to stop doing business with the employer in the primary or basic labor dispute.

**What does a boycott look like? Here are three examples:**

- The Baker Company makes window sash. It isn't unionized. On one of his jobs, Powers, a union contractor, orders Baker sash. The carpenters union persuades carpenters on the Powers job not to install the sash.
- A unionized general contractor hires a nonunion electrical subcontractor. Unions on the job object and persuade their members not to work as long as the nonunion men stay on the job. (This is what happened in the Denver Building Trades case.)
- The teamsters have a dispute with a ready-mix company. It pickets the company trucks and follows them to a construction site where deliveries are made. Employees of contractors on the job honor the picket line and stop work.

In construction cases there's sometimes difficulty in identifying the employer with whom the labor dispute exists; neutral employers are often hard to find and the real objective of the union is often obscured. And sometimes there's a question of whether the union has exerted its pressure against employers rather than employees.

**The courts have done little to straighten out the tangle.** They say union activity that's clearly a boycott is invalid. But pressure on employers is not invalid. Hot cargo clauses banning the use of nonunion or unfair products aren't invalid but they can't be enforced by pressure on employees. Picketing at a common construction site and roving pickets are sometimes legal and sometimes illegal.

**Most employers think the best answer to the existing confusion is to outlaw all boycotts.** The Associated General Contractors of America and the National Association of Home Builders have taken this position. They think the problem goes far beyond the question of union organization. And even where it doesn't, they maintain, it's a wrong-headed kind of organization because it's often the employer, not the work force that gets "organized." They find boycotts economically hazardous and costly to the innocent and can therefore see no justification for them.

But the building trades unions consider boycotts part of their life-blood. They say it goes against all their union principles to have to work on the same job as nonunion men and that boycotts are sometimes their only means of keeping their wages and working conditions from being undermined. They claim they need the right to boycott—the kind that occurred in the Denver case—as an organizational device because traditional methods of organizing under the law aren't available to construction unions. (This is part of the old complaint that the Taft-Hartley Act has never fitted the construction industry and is one of the problems the industry's Joint Legislative Committee wrestled with unsuccessfully.)

**The AFL-CIO construction unions, as a result, have been asking for more liberal rather than more restrictive treatment of boycotts.** They've made the most progress in the direction of getting a legal exemption for boycotts at construction sites. President Eisenhower has repeatedly recommended this on the grounds that no contractor on a construction project is sufficiently isolated from the others to be a "neutral" employer.

The subject, however, proved too controversial to handle in the Kennedy-Ives labor bill. But absence of any further restrictions on boycotts is one reason why management generally opposed the bill.

**Little of this is apt to appear in the picture painted by the McCellan committee hearings. But it's a problem too complex to be solved by such an investigation and one that's bound to plague Congress for a long time.**

## Long Strike Over Wages Settled by Carpenters

A new three-year labor contract granting a 40-cent wage increase has halted a 91-day carpenters' strike against contractors in Port Arthur, Beaumont and Orange, Tex.

The union agreement with the Sabine Area Construction Committee also grants the carpenters two hours' show-up pay. Bad weather is not excepted.

The wage increase is payable in four installments—12½ cents immediately, 1½ cents next April 1, 7½ cents January 1, 1960 and 7½ cents April 1, 1960.

(*Labor continued on page 80*)

# Austria: Labor Wears the Pants

A construction boom coupled with a tight labor market is giving contractors in Austria a lot of labor headaches. Jobs are easy to get and so hard to fill that construction workers rather than contractors are reportedly calling the tune on wages and working conditions.

Construction management says it's unable in many cases to enforce any kind of labor and work discipline at construction sites. Work is sloppy, adherence to starting and quitting times is lax and demands for higher wages and shorter working hours are ceaseless.

Labor answers management's demands for more productive work practices by shifting from one job to another. Unskilled labor is considered the worst offender.

The Austrian Association of Building Contractors is deeply concerned. It warns that construction costs will increase sharply and that a present tendency of construction workers to do jobs without a licensed contractor will get out of hand. This, it says, will leave the quality of construction and the safety of buildings entirely to chance.

The constant shifting of labor and the upward pressure on wages and fringe benefits is already making a difficult task of bidding. Contractors are being forced to add a "safety margin" to their estimates to cover wage demands that may be granted while work is under construction.

Some of the underlying pressure is stimulated by the Austrian trade unions. They've already started a drive for a 45-hour workweek—it's now 48. Use of overtime is resisted and, when used, is strictly enforced, even to the point of payment for each "begun hour" of overtime. And workers continue to take their vacation time whenever they want.

Construction employment, which hit an all-time high during the third quarter of last year, has shot up another 8%. And all available manpower is now being fully utilized.

# Fund Reporting Forms Drafted

The effect of the Welfare and Pensions Plans Disclosure Act, passed by Congress on August 19, is becoming clearer.

Two forms for reporting the information required by the law have been prepared by the U. S. Department of Labor. They are now being circulated as "tentative" drafts "for discussion purposes only." Following the receipt of comments and suggestions from interested parties, a final version of the forms will be printed and distributed for use by plan administrators, who bear the burden of reporting.

The law becomes effective January 1 and applies to all plans, funds or programs established unilaterally or jointly by employers or employee groups to provide medical, hospital, surgical, sickness, accident, disability, death, unemployment or retirement benefits. Major exceptions are plans established by persons not engaged in interstate commerce or plans covering not more than 25 employees.

The proposed forms—D-1 and D-2—consist of 30 printed pages. One is a form for reporting the description of a plan and contains 19 questions. The other is a form for annual reports. It consists of four parts and contains six schedules. Congress delegated the preparation of the forms to the Secretary of Labor.

Plan administrators—including trustees—must file descriptions of the plan by April 1. The first annual reports for plans operating on a calendar year basis are due May 1. For plans on a fiscal year basis, the reports are due 120 days from the end of the fiscal year.

Two copies of the plan's description and one copy of each annual report must be filed with the Secretary of Labor. They must also be made available to the beneficiaries of the plan.

Severe penalties are imposed for violation of the reporting requirements.

## Union Membership Policy Criticized by Workers

"Family" membership restrictions imposed by a Rhode Island local of the International Brotherhood of Electrical Workers are blamed for a shortage of union electricians in the state.

Two nonunion, state-licensed journeymen electricians have accused the local of a membership policy that gives first preference to sons of union members.

This, they say, has created an artificial shortage of union electricians and has caused construction delays for contractors.

One of the electricians claims he has tried unsuccessfully for 20 years to become a member of the union. The other says he has had no better luck in 17 years.

An unsuccessful appeal for help has been made to State-Labor Director Arthur W. Devine, a former state AFL president. Mr. Devine says he understood the policy was to give preference to sons of members who want to become apprentices rather than members. But he claims he has no legal right to investigate the charge and can do nothing.

In airing their grievance, the electricians said the effect of the union policy is to give union members a monopoly on top-paying jobs.

The local's business agent gave a flat "no comment" when questioned about the charges. He is chairman of the state Electricians' Licensing Board and a former president of the state AFL.

# An End to Strikes?

### A contractor spokesman urges orderly settlement of wage disputes

A new approach to the settlement of wage disputes in the construction industry was urged by a management spokesman last week. Paul J. Brienza, managing director of the Building Contractors Association of New Jersey, suggested using arbitration in place of strikes.

Mr. Brienza says arbitration would help protect rank-and-file workers from unnecessary losses in wages because of strikes and work stoppages. And contractors and investors would be spared irreparable economic damage.

The proposal, Mr. Brienza says, makes sense for two reasons:

- Collective bargaining has reached a "stage of maturity" where unions don't need to resort to strike tactics.
- In most cases, corporations and individuals settle their disputes either in court or through "due process of law" without violently disrupting the daily lives of other people.

Construction labor and management can do the same thing, Mr. Brienza believes, if they establish the "procedural mechanics." Specifically, he suggests agreement on a procedure for submitting disputes to a "judge or Board of Arbiters."

The proposal was made in an address before the Construction Contractors Council in Washington, D. C.

Mr. Brienza, who has been active in efforts to reduce featherbedding and jurisdictional strife, also urged contractors to begin the spadework for next year's collective bargaining now. His advice: Talk over the "unrealistic trends of exorbitant demands" with labor leaders and warn them of the dangers to which "reckless demands" expose the entire industry.

## Brown-Olds Rule Applied In Alaska Laborers' Case

Morrison-Knudsen Co., Inc. and a local of the laborers union in Anchorage, Alaska, became the victims last month of the notorious Brown-Olds rule, now used by the National Labor Relations Board in closed shop cases.

NLRB trial examiner Howard Myers found the company had violated the federal labor law by requiring five prospective employees (college students looking for summer jobs) to join the union before they could be hired. As one of the penalties for the violation, he recommended that the company and the union "severally or jointly reimburse the five employees for any and all fees and dues paid by them to Local 341."

The amount involved will reportedly be computed on the basis of $50 or $60 for each initiation fee and $4 monthly dues for three or four months for each worker. It was indicated last week, however, that the order may be extended to cover all laborers hired during the previous six months.

The decision is an example of what's in store for contractors and building trades unions that fail to comply with the recent hiring practice mandates of the NLRB (ENR Sept. 18, p. 19).

## Canadian Engineers Seek An Area-Wide Agreement

The multi-million-dollar construction tie-up in Toronto was farther from solution last week. The International Union of Operating Engineers announced it will demand a province-wide agreement with major building contractors.

The union is one of four that have failed to negotiate new contracts with the Toronto Builders Exchange. Union members have been idle in Toronto since late September, when members of the exchange engaged in a shutdown following a strike by cement masons.

The demand for an area-wide agreement means the shutdown may spread to other areas of Ontario. Meanwhile, the exchange, which has several members who work across the province, says it won't stop the lockout until all the unions sign on exchange terms.

## Jurisdictional Disputes Occur on Power Projects

Union disputes over work assignments recently stalled work on two power projects. One was over turbine work; the other, crane operation.

The first occurred at the $110 million plant being built at New Albany, Ind., for Public Service Co. Erection work on parts of the turbines was assigned to members of the machinists union. A short-lived protest by members of the plumbers and pipefitters union idled 600 construction workers. It's estimated that $45,000 in wages was lost before the unions settled.

The second dispute was at the Robert Moses Power Dam, the U. S. half of the St. Lawrence Power Dam. Members of the operating engineers union, who operate the construction cranes, objected to operation of permanent cranes in the powerhouse by members of the electrical workers union. The dispute lasted three days, but was settled before a general work stoppage developed.

## Bricklayer Productivity Is Hailed by Contractor

How many bricks can a mason lay in a working day?

That is a question often asked in the construction industry but seldom answered with factual authority.

Harold W. Peterson, president of the Mason Contractors Association, came up with an answer: 625. That's what he told the 65th convention of the bricklayers international union at Atlantic City this month.

Mr. Peterson gave this rundown of the number of bricks a bricklayer lays in an eight-hour day:

Hospital construction—514
School construction—600
Office buildings—625
Church construction—623
Apartment and residential buildings—586
Commercial work—616

Mr. Peterson said the figures were compiled by MCA to refute the claim that bricklayer production is limited to 300 bricks a day.

## AFL-CIO Union Enters Low-Cost Housing Field

The American Federation of State, County and Municipal Employees (AFL-CIO) has signed a contract with Long Island Homes, Inc., for construction of the first phase of a $2 million, low-cost apartment project in Milwaukee.

The union is entering the low-cost housing field under Title 221 of the Federal Housing Act. That title provides for federal mortgage insurance for housing kept under $10,000 per unit in cost.

Plans for the first phase of the project—64 two-bedroom "conventional" apartments grouped in four and eight family buildings—have been submitted to the Milwaukee FHA office for approval.


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## New York State Road Work

NOTICE TO CONTRACTORS: STATE DEPARTMENT OF PUBLIC WORKS, ALBANY, N. Y.,—Pursuant to the provisions of the Highway Law, and special provisions for projects financed with Federal Aid Funds, sealed proposals will be received until ten-thirty o'clock A.M., eastern standard time on the 20th day of November 1958, by Henry A. Cohen, Director, Bureau of Contracts, 12th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., for the following Projects:

| County | Contract No. | Name | Miles | Type | Deposit | Estimated Cost of Work |
|---|---|---|---|---|---|---|
| DISTRICT No. 1, G. L. NICKERSON, District Engineer, 353 Broadway, Albany, N. Y. | | | | | | |
| Albany | FASS 58-25 | South Bethlehem-Feura Bush Co. Rds. 53, 54 and 102<br>Proj. S-483(1) | 4.14 | Asphalt Concrete | $25,000<br>Plans $5 | $457,000 |
| Greene<br>(Rte. 385) | FARC 58-167 | Catskill-Athens, S.H. 5367<br>Proj. F-365(8) | 0.67 | Asph. Conc. = 0.66 Mi.<br>Misc. Work = 0.01 Mi.<br>Comp. WF Beam Br., 125 | $21,000<br>Plans $5 | 386,000 |
| Saratoga<br>(Rte. 9) | FARC 58-166 | Clifton Park-Round Lake, S.H. 1795<br>Proj. F-639(12) | 2.31 | Asph. Conc. = 1.95 Mi.<br>Misc. Work = 0.36 Mi. | $30,000<br>Plans $5 | 557,000 |
| DISTRICT No. 2, L. KETCHUM, District Engineer, 109 No. Genesee St., Utica, N. Y. | | | | | | |
| Madison<br>(Rte. 12) | FARC 58-161 | Hubbardsville-North Brookfield, S.H. 8203<br>North Brookfield-Waterville, Pt. 1, S.H. 1590<br>Proj. F-456(9) | 3.83 | Asphalt Concrete, Type 1A | $43,000<br>Plans $5 | 791,000 |
| DISTRICT No. 3, E. E. TOWLSON, District Engineer, 333 E. Washington St., Syracuse, N. Y. | | | | | | |
| Cayuga | FASS 58-21 | South Butler-Conquest, Pt. 2, Co. Rd. No. 22 and 23<br>Proj. S-285(2) | 3.32 | Bit. Double Surf. Treat. Pavt. | $21,000<br>Plans $5 | 364,000 |
| Cort. & Tompkins | FASS 58-22 | McLean-Cortland Co. Rd. 105 & 120<br>Proj. S-539 | 2.24 | Bit. Double Surf. Treat. Gravel | $14,000<br>Plans $5 | 257,000 |
| Oswego | FASS 58-23 | Phillips Corners-Mallory-Little France Co. Rd. 487<br>Proj. S-24(2) | 4.79 | Asphalt Concrete | $35,000<br>Plans $5 | 634,000 |
| DISTRICT No. 4, B. F. PERRY, District Engineer, Barge Canal Terminal, Rochester, N. Y. | | | | | | |
| Monroe | LOSP 58-4<br>FAC 58-25 | Lake Ontario State Parkway (Dewey Ave.-Rochester City Line)<br>Rochester City: Lake Ontario State Parkway Arterial Highway (Rochester City Line-Lake Ave.)<br>Proj. U-1141(1) | 1.68<br>(1.60<br>Acc.) | Grad., Drain. & Gravel Found. = 1.68 Mi.<br>(Access Rds. = 0.92 Mi. Grav. Fdtn. and 0.68 Mi. Asp. Conc.)<br>2 RR Sep. Plate Girders 342.1 and 162'<br>1 Hy Sep. Reinf. Conc. Rig. Frame 109.7'<br>1 Hy. Sep. Comp. WF Beam 164' | $150,000<br>Plans $5 | 2,702,000 |
| DISTRICT No. 5, E. G. H. YOUNGMANN, District Engineer, 65 Court Street, Buffalo, N. Y. | | | | | | |
| Erie<br>(Rte. 78 and 324) | FARC 58-165 | Transit Pt. 1, S.H. 88<br>Sheridan Drive, S. H. 9216<br>Proj. U-651(9) | 1.56<br>(0.57<br>Acc.) | 9" Cem. Conc. 2 at 24' = 1.02 Mi.<br>(Acc. Pavt. = 0.57 Mi. Cem. Conc.)<br>Asphalt Conc., Ty. 2A = 0.43 Mi.<br>Misc. Work = 0.11 Mi.<br>Hy. Sep. Comp. WF Beam, 162.5' | $70,000<br>Plans $5 | 1,243,000 |
| Erie | FI NYST 58-1 | New York State Thruway-Erie Sect., Sub. 8C, 8D and 8E<br>Niagara Sect. Sub. 1 and Ontario Sect., Sub. 9, 10 and 11<br>Proj. I-1072(6); I-1071(12) | 7.10 | 6' Chain Link Fence and Misc. Work | $10,000<br>Plans $5 | 170,000 |
| Erie | FAC 58-22 | City of Buffalo: Broadway Arterial Highway<br>Proj. U-285(4) | 0.44 | Asphalt Conc., Type 2A = 0.38 Mi.<br>Misc. Work = 0.06 Mi. | $17,000<br>Plans $5 | 312,000 |
| Erie | FASS 58-24 | Central Quaker Street, Co. Rd. 498<br>Proj. S-545(1) | 0.86 | Bit. Treat. Grav. = 0.85 Mi.<br>Misc. Work = 0.01 Mi.<br>Comp. WF Beam Bridge = 117.5' | $14,000<br>Plans $5 | 261,000 |
| Niagara | FAC 58-24 | City of Niagara Falls: Hyde Park Boulevard Arterial Highway (Michal Ct. to No. City Line)<br>Proj. U-1128(1) | 1.59 | Asphalt Concrete = 1.52 Mi.<br>Misc. Work = 0.07 Mi. | $115,000<br>Plans, Large Size Only, $50 | 2,087,000 |
| DISTRICT No. 7, R. W. SWEET, District Engineer, 444 Van Duzee Street, Watertown, N. Y. | | | | | | |
| St. Lawrence | FASS 58-20 | Southville-Holmes Hill Co. Rd.<br>Proj. S-530(1) | 6.17 | Bit. Surface Treated Gravel | $30,000<br>Plans $5 | 537,000 |
| St. Lawrence<br>(Rte. 37) | FATC 58-2 | Village of Massena: Center St.-Parker St. Bridge and Interchange, FAS S.H. 57-5. Proj. U-S-467(2) | 0.64 | Furnishing & Installing Traffic Signals | $2,200<br>Plans $5 | 40,000 |
| DISTRICT No. 8, K. G. RAUER, District Engineer, Pleasant Valley Road, Poughkeepsie, N. Y. | | | | | | |
| Dutchess & Orange<br>(Rtes 22 & 84) | RC 58-169 | Amenia- Wassaic, S.H. 537, Br. No. B-2<br>Middletown-Montgomery, S.H. 499, Br. No. B-5 | .... | Cleaning and Painting 2 Bridges | $350<br>Plans $5 | 6,000 |
| Orange & Rockland | PIP 58-2 | Palisades Interstate Parkway<br>(N.Y. and N.J. State Line to Bear Mt. Br. Circle) | 26.13 | Roadside Development | $12,000<br>Plans $5 | 211,000 |
| Ulster & Sullivan<br>(Rte. 52) | RC 58-164 | Woodbourne-Ellenville, Pt. 2B, Pt. 2A and Pt. 1,<br>S.H. 49-4, S.H. 49-6 and S.H. 49-7 | 10.94 | Grad., Trimming Road Section and Misc. Roadside Improvement | $5,000<br>Plans $5 | 93,000 |
| Westchester<br>(Rte. 129) | RC 58-163 | Croton-Croton Dam-Croton Bridge, Pt. 2, S.H. 1886 | 3.66 | Beam Type Guide Railing | $1,100<br>Plans $5 | 20,000 |
| DISTRICT No. 10, M. E. GOUL, District Engineer, 325 W. Main Street, Babylon, L.I., N. Y. | | | | | | |
| Bronx | FI TNE58-2<br>FI CBE58-5 | Interstate Route Connection 513 Cont. 2<br>(Cross Bronx Expressway and Throgs Neck Expressway)<br>Proj. I-1112(7) | 2.73 | Grading and Drainage Bridge Substructure | $470,000<br>Plans $5 | 8,420,000 |
| Nassau | MSP 58-1 | Meadowbrook State Parkway | 0.13 | Miscellaneous Drainage Work | $2,000<br>Plans $5 | 37,000 |
| Nassau | FAC 58-23<br>FARC 58-168 | Glen Cove Arterial Cont. 1<br>(Cedar Swamp Rd. to L.I.R.R.)<br>Massapequa-Glen Cove, S.H. 9017. Proj. U-UG-1102(3) | 0.74<br>(0.25<br>Acc.) | 9" Cem. Conc. Pavt. 2 at 25' wide = 0.68 Mi.<br>Misc. Work = 0.06 Mi.<br>(Access = 0.20 Mi. Cem. Conc. and 0.05 Mi. Asp. Conc.)<br>1 Hy. Sep. Comp. I-Beam 76.3'<br>1 RR Sep. Plate Girder, 146' | $94,000<br>Plans $5 | 1,699,000 |

Any projects in this letting that are on the Federal Aid highway systems are subject to the provisions of the "Federal-Aid Highway Act of 1956", being Public Law 627, 84th Congress, approved June 29, 1956, and are also subject to the applicable New York State statutes.

In compliance with the provisions of Section 115 (Prevailing Rate of Wage) Public Law 627, the minimum wages to be paid laborers and mechanics are included in wage schedules that are set out in the bid proposal. Maps, plans, specifications and proposal forms may be seen and obtained at the office of the State Department of Public Works, Bureau of Contracts, Albany, N. Y., and at the office of the District Engineers noted above, and may also be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for Plans and Proposal Forms for each contract is indicated above. A refund will be made in full to bidders for return of one set, in good condition, within 30 days of award, or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

Special attention of bidders is called to "Information for Bidders" in the Public Works Specifications, and to the special provisions applying to projects financed with federal funds. Award of a contract is subject to priorities and allocations under the Defense Production Act of 1950, as amended, and all regulations issued thereunder.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by draft or certified check payable to the order of the "State of New York, Commissioner of Taxation and Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Laws, as set forth in "Information for Bidders".

The right is reserved to reject any or all bids.

JOHN W. JOHNSON
SUPT OF PUBLIC WORKS

OFFICIAL PROPOSALS

Bids: November 21, 1958.

### Highway and Bridges

Route No. 1—North Road Between Puerto Cortés and Búfalo, Republic of Honduras, CONTRACT NO. 501-C.

Sealed Proposals for the above noted contrac, described herein will be received by the Director General of Highways at the Offices of the Ministry of Public Works & Communications, Tegucigalpa, D. C., Honduras, until 10 a.m. Honduras Time, on November 21, 1958 and then publicly opened.

The work to be done under this Contract shall be commenced on the date specified in the Notice to Proceed or such earlier date mutually agreed upon by the Ministry and the Contractor. All work under the Contract shall be completed within 730 calendar days after such date and consists of furnishing all plant, labor, materials, and equipment, and performing all work in strict accordance with the Specifications, Schedules and Drawings forming parts thereof, for the Construction of the North Road (Route No. 1), between Puerto Cortés and Búfalo (approximately 71 kilometers).

Proposals shall be submitted covering all the work on the North Road (Route No. 1) between Puerto Cortés and Búfalo, as delineated on the Unit Price Schedule Form. The approximate quantities of the principal items of work are:

Unclassified Excavation 1,355,000 CM, Special Borrow 54,000 CM, Sub-base 66,000 CM, Crushed Aggregate Base Course 50,000 CM, Bituminous Surface Course 450,000 SM, Structural Steel 880,000 LBS, Reinforcing Steel 610,000 LBS, Structure Concrete 4,500 CM.

Prospective bidders can obtain copies of the plans, specifications and contract documents for a fee of L.200.00 (TWO HUNDRED LEMPIRAS AND NO/100), from the Office of the Director General of Highways, Tegucigalpa, Honduras. A Contractor's Financial Statement and Experience Questionnaire and a Plan and Equipment Questionnaire on forms supplied by the Directorate of Highways will be required of all bidders. All proposals must be on the forms prescribed by the Directorate of Highways and must comply with the terms and conditions set forth in the Contract Documents.

Each Proposal must be accompanied by a Proposal Guaranty in the amount of ten (10) percent of the total amount shown in the Proposal Form Unit Price Schedule in the form and manner specified in the Instructions to Bidders.

Individuals or firms doing business under fictitious names and all foreign corporations shall register with the Ministry of Public Works and Communications, Tegucigalpa, Honduras, before any proposals submitted by such corporations, individuals or firms will be considered.

Award of the above contract, if any award be made, will be to the lowest responsible bidder or bidders. The Government reserves the right to reject any and all proposals and further reserves the right to waive any informality in proposals received when such rejection or waiver is in the best interest of the Government.

The Government of Honduras has entered into a Loan Agreement with the International Bank for Reconstruction and Development for a loan in various currencies to finance the foreign exchange costs of a Highway Construction Project of which this contract will form a part. The Government of Honduras has also entered into a Loan Agreement with the Development Loan Fund of the United States Government for a loan to finance the local currency costs of the Project.

DIRECTOR GENERAL
OF HIGHWAYS

October 10th, 1958

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Bids: December 2, 1958

### City of Linden, New Jersey

NOTICE TO BIDDERS

Sealed proposals for Construction of Storm Drain and Appurtenances in connection with Contract 2 of Storm Drainage Relief Project—Eighth Ward will be received by the Common Council of the City of Linden, New Jersey, at a meeting to be held in the Council Chamber at the City Hall 8:30 P. M. on December 2, 1958, and then publicly opened and read. No proposal will be accepted after said hour.

The work will include the construction of about 1248 lineal feet of a 6 ft. by 15 ft., reinforced concrete drain (or dual 77-inch by 121-inch oval reinforced concrete drain as an alternate) and appurtenant structures.

Information for Bidders, Proposal Forms, Specimen Contract, Plans, Specifications and other pertinent Contract Documents may be examined at the office of the City Engineer, City Hall, Linden, N. J., and at the office of Alexander Potter Associates, Consulting Engineers, 50 Church Street, New York, between the hours of 10 A.M. and 4 P.M., daily except Saturdays and holidays and there obtained upon making a deposit of Forty ($40.00) dollars. Full refund will be made to actual bidders for return of one set, in good condition within (15) days. Half of this deposit will be refunded to non-bidders. Extra copies of Specifications may be obtained at a cost of ten ($10.00) dollars each and extra copies of the drawings at a cost of One (1) dollar each which sums will not be refunded.

BIDS AND BID SECURITY: All bids must be made upon standard proposal forms contained in the bidding documents and must be enclosed in sealed envelopes bearing the name and address of the bidder and a designation of the proposed work on the outside of such envelope addressed to the Council of the City of Linden. Each bid must be accompanied by a certificate of a responsible surety company executed by the bidder and such surety company guaranteeing that the bidder will execute the contract if it is awarded to such bidder and that said surety company will provide the performance bond recited in R.S. 2A:44-147 in the full amount of the contract price.

No bid may be withdrawn for any reason whatsoever after it has been opened and read at the time and place above designated during the period of forty-five (45) days following the public opening and reading of such bid.

In the event the successful bidder shall fail to enter into a contract with the City of Linden or fail to file the required performance bond within ten (10) days after the giving of notice on behalf of the City of Linden to such bidder that the award has been made to said bidder, the City of Linden may award the contract to the next lowest responsible bidder or in its judgment may proceed to re-advertise for new bids and the aforesaid successful bidder and surety company shall be responsible to the City of Linden for all of its expenses, losses and damages by reason of such failure on the part of the bidder and surety, or either of them. Extension of time to enter into the contract and failure to do so after such extension of time shall not in any way effect the rights of the City of Linden against the bidder or surety company.

The Council reserves the right to reject any and all bids as may be deemed to be in the best interest of the City of Linden. The Contractor shall enter into the form of contract contained in the bidding documents, which may be inspected in the office of the City Engineer and the Consulting Engineer, and the same shall include and shall be regarded as including, whether the same is specifically set forth or not, the provisions of R.S.34:10-1 (Chapter 230 P.L.1932) and all state laws and labor regulations relating to municipal contracts.

BY ORDER OF THE MAYOR
AND COMMON COUNCIL OF
THE CITY OF LINDEN,
NEW JERSEY
Francis H. Dann, City Clerk

Dated: October 30, 1958

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Bids: November 12, 1958

### Lehigh-Northampton Airport Authority

NOTICE TO CONTRACTORS

The Lehigh-Northampton Airport Authority will receive sealed Proposals for turfing work in connection with the demolition and reconstruction of part of an existing runway and the site preparation work required for a new 5000 foot long runway. Proposals will be received by the undersigned until 1:30 P.M. (E.S.T.) November 12, 1958 at the office of the Lehigh County Commissioners, Court House Annex, 523 Hamilton Street, Allentown, Pa., and will be publicly opened after 1:45 P.M. (E.S.T.) of the same day.

Copies of the Plans, Specifications and Proposal Forms can be obtained at the office of G. Edwin Pidcock Co., Consulting Engineers, 546-548 Hamilton Street, Allentown, Pa., upon payment of Twenty-Five Dollars ($25.00) for each set. Any Bidder, upon returning such set in good condition within ten (10) days after the opening of the Proposals, will be refunded Fifteen Dollars ($15.00) of his payment.

The work under this contract shall be done in accordance with the "Standard Specifications for the Construction of Airports" (Civil Aeronautics Administration) as published by the United States Government Printing Office in January 1948, and revised and supplemented in August 1951 and June 1956. Copies of these Specifications can be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., at the price of $3.50 each.

Each Bidder must deposit with his Proposal, a certified check or surety company's bid bond in an amount of not less than five (5) percent of the Total Bid as defined in the Instructions to Bidders.

Proposals must be submitted in duplicate on the prescribed forms provided, and in accordance with the Instructions to Bidders. No Bidder may withdraw his Proposal within thirty (30) days after the actual date of the opening thereof. The Lehigh-Northampton Airport Authority reserves the right to waive any informalities in, or to reject any or all Proposals.

The minimum wages paid all labor employed on this project shall be as tabulated in the Specifications and as approved by the Secretary of Labor of the United States.

ROBERT L. FOX
Secretary, Lehigh-Northampton
Airport Authority

EDWIN K. KLINE, JR., Solicitor

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Bids: November 13, 1958

### Power Authority of the State of New York

ADVERTISEMENT FOR PROPOSALS
For the Furnishing and Delivery of Towers, Guides and Sills for Tuscarora Power Plant
Specifications No. PA-N-23015
Niagara Contract No. NP28

NOTICE TO CONTRACTORS: The POWER AUTHORITY OF THE STATE OF NEW YORK will receive sealed proposals for the furnishing and delivery thereof f.o.b. destination, Niagara Falls, Niagara County, New York, of the towers, guides, and sills for the Tuscarora Power Plant until 10:30 A.M. Eastern Standard Time on the 13th day of November, 1958, at the Authority's Office, 18th Floor, The Coliseum Tower, 10 Columbus Circle, New York 19, New York, at which time and place proposals will be opened and read aloud.

The work consists of fabricating, furnishing and delivery thereof of approximately 2,300 tons of embedded structural steel towers, guides and sills for the draft tube gates, trash racks, stoplogs and intake gates for the Tuscarora Power Plant.

Delivery of the above items will be required beginning March 15, 1959.

Plans, Specifications and Proposal Forms for the work may be obtained from the Power Authority of the State of New York, at The Coliseum Tower, 18th Floor, 10 Columbus Circle, New York 19, New York upon application and prepayment of a fee of Ten Dollars ($10.00) per initial set of contract documents, and Five Dollars ($5.00) per set for additional sets, no part of which will be refunded. Plans, Specifications and Proposal Forms for the work will be on file in the Authority's Office, 18th Floor, The Coliseum Tower, 10 Columbus Circle, New York 19, New York, and in the office of the Engineer, Uhl, Hall & Rich, 230 Congress Street, Boston 10, Massachusetts, and may be inspected by prospective bidders during office hours.

Bids must be made and returned in duplicate in accordance with instructions contained in the Information for Bidders. Guarantee (certified check or bid bond) will be required with each bid in an amount not less than 20 percent of the gross sum bid.

The right is reserved to reject any or all bids.

W. S. Chapin
General Manager

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### U. S. Government

DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. DC-5117) will be received at Grand Junction, Colorado until 2 p.m. Mountain Standard Time, December 2, 1958, for furnishing labor and materials for Paonia Dam and relocation of State Highway, Colorado River Storage Project, Colorado, Paonia Participating Project. Location near Paonia, Colorado, in Gunnison County. Principal items are 1,450,000 cu. yds. excavation; 680,000 cu. yds. embankment; 12,500 cu. yds. concrete; and other work. Completion time 1,000 days. For particulars, address Bureau of Reclamation, Grand Junction, Colorado; or Building 53, Denver Federal Center, Denver 2, Colorado. W. A. Dexheimer, Commissioner.

## OFFICIAL PROPOSALS

Bids: December 5, 1958

### *Sewage Treatment Plant for Village of Wappingers Falls, New York*

Sealed Bids will be received until 8:00 P.M., December 5, 1958, in the office of the Board of Trustees, Village of Wappingers Falls, N. Y., for construction of Sewage Treatment Plant, Village of Wappingers Falls, N. Y., at which time all bids will be publicly opened and read aloud.

Proposal Form, Contract Documents, Plans & Specifications may be obtained at the office of Schuerman & Ackerman, Engineers, 54 Market St., Poughkeepsie, N. Y., and may be examined at the Village Office, Wappingers Falls, N. Y., and at Dodge Reports, New York City.

A deposit of $25.00 for the first set of Documents and $15.00 each for additional copies to each prospective bidder will be required. Upon return of Documents in good condition within 15 days after bid opening, deposits will be refunded.

A bid bond, or certified check, made payable to the Village of Wappingers Falls, N. Y., in the amount of 5 percentum of the bid proposal must be deposited by each bidder with his bid as a guarantee that, in case a Contract is awarded to him within 45 days after bid opening, he will, within 10 days after notice of such award, execute the Contract in the form provided and furnish the required perfromance bond. On failure to do so, he will forfeit the bid bond or check on deposit, as liquidated damages and acceptance of the bid will be contingent upon the fulfillment of this requirement by the Bidder. Bid Bonds or checks of all except the three (3) lowest formal bidders will be returned within 10 days after bid opening; remaining deposits will be returned after execution of a contract between the Owner and the accepted bidder.

The successful bidder will be required to furnish a performance bond satisfactory to the Board of Trustees and its legal counselor in the amount of the contract and having as surety thereon such surety companies as are acceptable to the Owner.

This project will be financed in part by a grant of Federal funds through the Public Health Service. Attention of bidders is invited to the minimum wage rate schedule to be observed under the Contract.

No bidder may withdraw his bid within 45 days after the date of opening thereof. Any bid may be withdrawn prior to the scheduled time for opening of bids or any authorized postponement thereof. The Board of Trustees reserves the right to waive any informalities in or to reject any or all bids.

JOSEPH A. SHERMAN, Village Clerk

### *Federation of Malaya Malayan Railway*

PROPOSAL TO CONSTRUCT ADDITIONAL HARBOUR WORKS IN THE NORTH KLANG STRAITS NEAR PORT SWETTENHAM IN THE FEDERATION OF MALAYA.
NOTICE TO CIVIL ENGINEERING CONTRACTORS

The Malayan Railway Administration, Federation of Malaya, expects to issue TENDER DOCUMENTS late this year or early in 1959 for the CIVIL ENGINEERING WORK of the above mentioned Project, which includes three Deep Water Berths, the reclamation of a Shore Installation Area of about 26 acres, two piled Approaches between the Shore and the Berths, an Embankment to carry a road and a railway and a Road/Rail Bridge across the River Klang.

Civil Engineering Contractors who may be interested in tendering for these and ancillary works are invited to apply for a descriptive Brochure of the project to—

Either (i) The Chairman of the Port Swettenham Board, P.O. Box No. 1, Kuala Lumpar, Malaya;

Or (ii) Messrs. Coode & Partners, Abbey House, 2/8, Victoria Street, London, S.W.1. England.

Applications for the Brochure should be accompanied by brief details of the Contractors' experience in marine and bridge works of a similar nature. A copy of the Brochure will only be sent to Civil Engineering Contractors whom the Port Swettenham Board considers have the necessary resources and experience to undertake the work described in the Brochure.

D. D. Bartlett,
Chairman,
Port Swettenham Board.

## OFFICIAL PROPOSALS

Bids: December 2, 1958

### *Contract GWB-190.011*

THE PORT OF NEW YORK AUTHORITY
GEORGE WASHINGTON BRIDGE
LOWER LEVEL EXPANSION
NEW YORK APPROACH
SECTION NO. 8

Pursuant to the provisions of the Highway Law, and special provisions for projects financed with Federal Aid Funds, sealed proposals for the construction of Section 8 of the approach roadway system in New York City for the lower level expansion of the George Washington Bridge will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, New York, until 2:30 P.M. on Tuesday, December 2, 1958, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Assistant Chief Engineer for Design of the Authority, Room 1115. Documents will be furnished upon deposit of $50.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $50.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt will be issued. The receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract directly to the Authority will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman

New York, October 30, 1958

Bids: November 25, 1958

### *Contract BP-150.017*

THE PORT OF NEW YORK AUTHORITY
BROOKLYN-PORT AUTHORITY PIERS
PIER 1
STEVEDORE'S GARAGE

Sealed proposals for the construction of a Stevedore's Garage in the vicinity of Pier 1 at the Brooklyn-Port Authority Piers will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on Tuesday, November 25, 1958, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Assistant Chief Engineer for Design of the Authority, Room 1115. Documents will be furnished upon deposit of $30.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $30.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt will be issued. The receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract directly to the Authority will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman

New York, October 30, 1958

Bids: December 2, 1958

### *Contract GWB-190.008*

THE PORT OF NEW YORK AUTHORITY
GEORGE WASHINGTON BRIDGE
LOWER LEVEL EXPANSION
NEW YORK APPROACH
SECTION NO. 7

Pursuant to the provisions of the Highway Law, and special provisions for projects financed with Federal Aid Funds, sealed proposals for the construction of Section No. 7 of the approach roadway system in New York City for the lower level expansion of the George Washington Bridge will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on Tuesday, December 2, 1958, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Assistant Chief Engineer for Design of the Authority, Room 1115. Documents will be furnished upon deposit of $50.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $50.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt will be issued. The receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract directly to the Authority will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman

New York, October 30, 1958

## OFFICIAL PROPOSALS

Bids: November 10, 1958

### *Contract PN-530.004*

THE PORT OF NEW YORK AUTHORITY
PORT NEWARK
ADDITIONAL PAVING AND DRAINAGE
NORTH OF BUILDINGS 290, 291 AND 292

Sealed proposals for the construction of pavement and drainage North of Buildings 290, 291 and 292 at Port Newark, New Jersey, will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:30 P.M. on Monday, November 10, 1958, at which time said proposals will be opened and read in Room 1108.

Contract documents may be seen at the office of the Assistant Chief Engineer for Design of the Authority, Room 1115. Documents will be furnished upon deposit of $30.00 per set for not more than three sets to any one company (each set including one copy of the contract drawings). Additional sets will be furnished upon payment of $30.00 per set, which payment is not returnable. Deposits and payments shall be delivered to the Treasury Department, Room 1001, where a receipt will be issued. The receipt shall be delivered to Room 1115, where the documents will be furnished.

Those who have submitted a bid on the contract directly to the Authority will receive a refund of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals. Those who have not submitted a bid will receive a refund of one-half of the deposit for each set of documents, not exceeding three, returned within forty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Donald V. Lowe, Chairman

New York, October 30, 1958

**OFFICIAL PROPOSALS**

**RATE:** The rate for Official Proposal Advertising is $2.40 per line (or fraction) per insertion.

**COPY RECEIVED:** up to 10:30 A.M. Friday for issue out following Thursday subject to space open for last minute ads.

**SEND COPY:** to Official Proposal Division, Classified Adv. Div., P. O. Box 12, New York 36, N. Y.

CHIEF ESTIMATOR—The man we are looking for has had a substantial background of successful experience bidding competitive building construction work for general contractors engaged in multi-million dollar projects. He is ready to take over and assume full responsibility of a chief estimator.

We have an exceptional opportunity to offer this man. We presently operate on a nationwide basis, but plan to expand our operations especially throughout the mid and far western states. We can offer a key position in this expansion program and an opportunity to grow with a growing company.

Write full details covering experience, education, references, personal data and salary requirements.

Director of Personnel
BLOUNT BROTHERS CONSTRUCTION COMPANY
P. O. Box 949, Montgomery, Alabama

# EMPLOYMENT NATIONAL COVERAGE OPPORTUNITIES

**DISPLAYED RATE:**

The advertising rate is $39.20 per inch for all advertising appearing on other than a contract basis. Frequency rates quoted on request.

An advertising inch in measured 7/8" vertically on a column—3 columns—30 inches to a page.

Subject to Agency Commission.

**NOV. 13th ISSUE CLOSES November 3rd**

**UNDISPLAYED RATE:**

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Position Wanted ads take 1/2 of above rate.

Box numbers—count as 1 line.

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*NEW YORK 36: P. O. BOX 12*
*CHICAGO 11: 520 N. Michigan Ave.*
*SAN FRANCISCO 4: 68 Post St.*

## • POSITIONS VACANT

**Highway Engineers—Highway Engineers with** a minimum of 3 years experience. Excellent opportunity with established consulting engineering firm in Middle West. P-7909, Engineering News-Record.

**Assist. Prof.—To teach undergrad. courses** in structures and mechanics. Salary open. Civil Eng., Univ. of No. Dak., Grand Forks.

**Architectural Draftsman. At the Pennsylvania** State University. Preparation of drawings for new buildings, maintenance, and alteration work. Write Employment Division, 304 Old Main, University Park, State College, Pa.

**Civil Engineer—Recent graduate, structures** option, needed by prestressed concrete firm. Write Prescon Corporation, Box 4186, Corpus Christi, Texas.

**Licensed Civil Engineer Associate desired by** reputable well established New Orleans consulting mechanical engineering firm to direct designs for municipal works, water, gas, sewerage, power plants, general civil work. Must be capable of meeting public and assuming major responsibilities. Reply held strictly confidential. Submit full background. P-9134, Engineering News-Record.

**Experienced Engineer to supervise subdivision** construction and development, including pavement, drainage, water, and sewage facilities. Central Florida location with consulting engineering firm. P-9135, Engineering News-Record.

**International Cooperation Administration Va**cancies for Highway Engineers for overseas employment. Salary range—$9,000-$13,000 plus housing. Applicant must have degree in civil engineering or professional engineer's license, and ten or more years' highway experience, preferably with a state highway department. Two year minimum assignment with career potential. For detailed information, send resume of experience to Office of Transportation, Transport Projects Division, Box 102, International Cooperation Administration, Washington 25, D. C.

**Wanted: Civil Engineers, 1-4 years' experi**ence. Outstanding opportunities for growth with U. S. firm in Latin America. Give complete background first letter. P-9172, Engineering News-Record.

**Wanted: Chief Engineer for Latin American** operation. Permanent position with U. S. firm. Minimum 5 years' experience as resident engineer. Know construction, irrigation, piping, road building. Give complete background first letter. P-9179, Engineering News-Record.

**Have opening for several recent Civil Engi**neer Graduates with military obligations completed who desire to learn the construction business. Must be ambitious, aggressive, dependable, use no intoxicants, preferably single, willing to start in the field on industrial buildings and heavy construction, and willing to move. We operate throughout Kansas and adjacent states. Our organization offers excellent opportunity for advancement. We pay top wages. Martin K. Eby Construction Co., Inc., P. O. Box 1679, Wichita, Kansas.

**City Engineer: City of Woodstock, Illinois.** Salary range $500-$600 per month. Graduate civil engineer required. Apply: City Manager, City Hall, Woodstock, Illinois.

**Field Engineer—Heavy industrial construc**tion and steel bridges. Aggressive and willing to travel in mid-west area. P-9181, Engineering News-Record.

## GRADUATE CIVIL ENGINEER

We are looking for a young, experienced, college graduate, with a degree in civil engineering, for a position in our El Paso, Texas Office. This opening is for a field engineer. It is an excellent opportunity for a young man to obtain a desirable position with a reliable firm doing all types of construction work.

ROBERT E. McGEE
GENERAL CONTRACTOR, INC.
P. O. Box 562 El Paso, Texas

## • POSITIONS VACANT

**Civil Engineer—Age 25 to 40. Must be** graduate engineer—Registered or capable of being such—Minimum three years construction experience. Work on small irrigation structures and earth dams. Send resume including picture and beginning salary requirement to: Chief of Water Development, Wyoming Natural Resource Board, 215 Supreme Court Building, Cheyenne, Wyoming.

**Construction Engineer—With degree in engi**neering or architecture, and field and office experience in building construction. Work involves supervision of field inspection of new building construction. Write Employment Division, 304 Old Main, The Pennsylvania State University, State College, Pa.

**Structural Detailers for growing steel fabri**cator located in Northern, New York. Minimum of three years experience opportunity for ambitious men to grow with Company. P-9064, Engineering News-Record.

**Heavy construction company specializing in** bridge construction desires services of experienced general superintendent familiar with job organization and contract compliance, with technical background preferable. Permanent position with long-established growing company. Work in Northeastern U. S. with some travel elsewhere. Salary open. Please send resume. P-9197, Engineering News-Record.

## • EMPLOYMENT SERVICES

**Better Positions—$6,000 to $35,000.** Want a substantial salary increase, more opportunity or different location? This national 47 year old service connects you with best openings. You pay us only nominal fee for negotiations: This we refund when employer pays placement fee. Present position protected. In complete confidence, write for particulars. R. W. Bixby, Inc., 559 Brisbane Bldg., Buffalo, N. Y.

## • POSITIONS WANTED

**Construction Executive; Substantial and suc**cessful record as a producer. Minimum $15,000.00, general, or construction manager level. PW-9096, Engineering News-Record.

**Registered engineer with experience in man**ufacture of prestressed concrete and eleven years experience in concrete promotion qualified to take complete responsibility for sales, engineering and production of structural concrete or related products available for position with producer or as manufacturers representative. PW-9113, Engineering News-Record.

**Foreign Service experience. All aspects of** negotiation, organization, labor training and direct supervision for roads, utilities, housing, general construction. Excellent record dealing with foreign philosophy under adverse conditions. Mature, adaptable, forceful. PW-9188, Engineering News-Record.

(Continued on page 87)

## ENGINEERING MANAGER

A Los Angeles Engineering and Construction firm has an opening for an Engineering Manager to plan, organize and administer engineering activities of one of its divisions. This position entails the setting of policies, representing the corporation on engineering and design matters, and reviewing engineering concepts.

Candidate should have an engineering degree from an accredited university and at least 15 years experience in the design and supervision of design of heavy industrial facilities. Recent experience in the engineering management of large scale engineering projects and familiarity with construction problems also required. Please submit resume to:

P-9020 Engineering News Record
1125 W. 6th St., Los Angeles 17, Calif.

## FIELD ENGINEER

**Nationally known organization offers excellent opportunity for young civil engineer graduate. Engineering consulting and promotional work in highway and concrete fields. Location Ohio, Indiana and Kentucky area. Car allowance and expenses. Permanent position. Salary based on qualifications and experience.**

**P-9093,** Engineering News-Record
Class. Adv. Div., P.O. Box 12, N.Y. 36, N.Y.

## ESTIMATOR

**Midwest engineering and construction company seeks estimator thoroughly experienced in preparation of competitive bid estimates for industrial type projects. Will be responsible for complete estimate from basic take-off to final submission form. Prefer graduate Civil Engineer with a minimum of ten years applicable experience. Will consider non-graduate who has considerable experience. Liberal fringe benefits. All replies confidential.**

P-9022, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

# ENGINEERS

**PERMANENT OPENINGS FOR QUALIFIED MEN EXPERIENCED IN THE DESIGN OR SPECIFICATIONS FOR**

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**BRIDGES**
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PREFER GRADUATE REGISTERED ENGINEERS WHO SEEK LONG RANGE EMPLOYMENT WITH AMPLE OPPORTUNITY FOR PROFESSIONAL DEVELOPMENT AND ADVANCEMENT IN A STEADILY EXPANDING AND GROWING ORGANIZATION.

Paid vacation, sick leave, holiday, overtime. Excellent Employee Benefits Plan provides retirement income plus life and disability insurance. Blue Cross. Moving allowance.

Work will be in the general offices in St. Louis. Interviews can be arranged in Washington, D. C., and San Francisco also.

*Please write fully, including salary data, to*

**SVERDRUP & PARCEL, Inc.**
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## *ASSISTANT CHIEF ENGINEERS*

**(Design)**

An internationally known consulting engineering firm has openings for two highly qualified assistant chief engineers (design) to administer and direct engineering activities of two branch offices in East and South with staffs of 30 to 50 civil, highway, structural, mechanical and electrical engineers, architects and surveyors engaged primarily in planning, design and supervision of construction on heavy construction projects under general supervision of home office. Positions involve direct liaison with clients.

Applicants must be registered graduate engineers with at least 15 years diversified experience in design, including at least 5 years in supervision of comparable integrated organizations.

Unsurpassed company paid hospitalization, life insurance and retirement benefits. 40 hour week. New air conditioned offices, liberal salary. Permanent positions with excellent opportunities for advancement. Send complete resume of education and experience with salary requirements to:

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P. O. BOX 346 MOBILE, ALA.

# MANAGER

## ESTIMATING DEPARTMENT

Large west coast petroleum-chemical Engineering and Construction company.

Minimum of 10 years in estimating petroleum and chemical facilities with 5 years in supervision.

Prefer degree in mechanical or petroleum engineering, also additional training and experience in business administration.

Must be able to supervise staff of 30-50 people.

Should have record of dealing with executive personnel throughout the petroleum and chemical industry.

**All Replies Kept in Confidence.**

*Send resume to:*

P-9147, Engineering News-Record
68 Post St., San Francisco 4, Calif.

# OVERSEAS

An exclusive association for foreign construction workers. Membership is a must. Current authenticated data on all foreign construction projects. Write for free details.

Overseas, Americans, Inc., 7 West 44 St., New York 36, N. Y. Dept. D.

## SALESMAN

Presently calling on trade to carry nation's finest pavement sealer. 15% commission assures $20,000 to top man. May be carried with present non-conflicting line. Nation-wide distribution. Reply in detail stating present position, area covered, etc. All replies confidential. Address Box 3011, University Station, Columbus 10, Ohio.

## SENIOR BRIDGE CONSTRUCTION ENGINEER

**for work in**

**SOUTHEAST ASIA**

Senior engineer needed to complete technical party. Work involves supervision of construction of highway bridges in South Vietnam. High degree of initiative, judgment and skill in handling human relations required in addition to professional competence. Eighteen-month minimum employment agreement. Only those interested in difficult and challenging work shall apply.

Minimum 20 years experience required in this highly responsible position, including deep water foundations and steel erection. Age limit 65 years. Those willing to travel in single status will be given preference.

**CAPITOL ENGINEERING CORPORATION**
DILLSBURG, *CONSULTING ENGINEERS* PENNSYLVANIA

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(Civil Engineering Registration Required)

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***Apply to: Personnel Division***

**ARIZONA HIGHWAY DEPT.**
206 So. 17th Ave.
Phoenix, Arizona

### • POSITIONS WANTED
(Continued from page 85)

**Supt. Const., 20 yrs Institutional, Industtrial,** Commercial. Engineer. Anywhere. PW-9138, Engineering News-Record.

**Field Engineer, 24, B.C.E., desires position** with general contractor. Excellent references. Available December. Present location central New York; will relocate. PW-9132, Engineering News-Record.

**Civil Engineer, five year C.E. Degree, three** years experience in structural design and teaching. Also talented in human relations and administration. Desires foreign assignment, but will consider challenging U.S. position. PW-9133, Engineering News-Record.

**Project Manager—General Superintendent** Paper mills—powerhouses; industrial, heavy commercial; organizer, administrator, producer. Good following—will travel; age 44; not an Engineer; practical builder with special management training—Min. salary $1,000 per month commensurate with responsibility. Resume on request. PW-9156, Engineering News-Record.

**BSCE.—LLB, 12 years experience all phases,** Road, Bridge & Municipal Construction. Interested in permanent position, with managerial opportunities, mid thirties. PW-9157, Engineering News-Record.

**Project Manager or Const. Supt.—25 years** experience all types construction. Willing to travel, available Nov. 1st. PW-9158, Engineering News-Record.

**Superintendent Sewer Construction, age 46,** 23 years experience, familiar with all phases of installation. PW-9033, Engineering News-Record.

**Manager; Project or District. 30 years experi**ence in powerhouse, industrial, chemical plant, heavy construction, sewage, and filtration plants. Estimates to completion. Engineering education. Available first of November. PW-9057, Engineering News-Record.

**Sanitary Engineer, P.E. with 35 years experi**ence in water supply, water treatment, sewers and sewage treatment. Excellent health. Experience in direction of engineering staff in the production of contract drawings and supervision of construction. Member of and active in Technical Societies. PW-9048, Engineering News-Record.

**Graduate engineer, professional license,** N. J., 25 years experience construction & design, also prestressed concrete desires position with construction firm with possibility of associate or partnership status. PW-9175, Engineering News-Record.

**15 years experience in dock building, pile** driving, heavy construction, supervision, estimating work, procurement purchasing. PW-9183, Engineering News-Record.

**Graduate civil engineer, P.E., 8 years ex**perience in supervision of heavy construction and design desires to relocate west or southwest. PW-9185, Engineering News-Record.

**Association with Consulting firm desired by** P.E., D. Eng., 20 yrs. planning exp. all phases process plants, oil refining, petrochemicals; estimating, procurement; domestic or abroad. PW-9190, Engineering News-Record.

**Office manager and sales engineer in branch** office for very small company. Single woman engineer, 32, "Q" clearance. Refinery, Chemical, Atomic, Steel, Power Plants, Marine. Anywhere. PW-9193, Engineering News-Record.

**Open Letter To Old Line General Contract**ing Co. in need of key man to handle estimating. Company should be small but set up to handle large heavy industrial & commercial projects on a best bid basis. This man is a registered, graduate engineer, 40, competent, able, loyal, dependable & has character & integrity. Desires responsible position where ability will be recognized & rewarded. Fully equipped by training and experience for top level management. PW-9194, Engineering News-Record.

**Const. Supervisor Grad. CE. 22 yrs. Indus**trial, Commercial, Public bldg. const. available as Gen'l Field Supt., Const. Supt., Project or Resident Eng'r. Westchester, Rockland, Orange, Bergen Area or will travel. PW-9196, Engineering News-Record.

**Equipment Manager with experience and abil**ity to handle large foreign job. Available early 1959. PW-9173, Engineering News-Record.

**Purchasing Agent—Office Manager. Account**ing background, 33. Good buyer. Experience with small construction company—schools, commercial, industrial buildings to $500,000. Southeastern Pennsylvania. Will relocate. PW-9162, Engineering News-Record.

### • POSITIONS WANTED

**Field Engineer, 36, 12 years experience in**dustrial chemical & refinery construction, layout supervision, cost & estimating, knowledge capable construction manager, desire permanent position New England area. PW-9165, Engineering News-Record.

**Gen. Supt. or Contractor's Assistant.** Sewers, heavy Earthwork, Mass Concrete. Capable productive administrator, adept in Labor & Public relations. References Tel. (evenings) Houston, Tex. JA-39769.

**Laboratory or Engineering Firm Offered cap**able service of key employee; 20 years gen. const. experience. Member ACI and ASTM. Soils & Concrete field lab. mgr.; senior inspector large Earthwork, Concrete and Sewer projects. J. P. Wallace, 1117 Richmond, Apt. 4, Houston, Texas.

### • POSITIONS WANTED

**Rock Products Engineer—18 years diversi**fied experience with 10 years in concrete products, building materials, expanded shale aggregates. Experienced in development, manufacturing, marketing. Graduate engineer with good profit sense, broad scope, positive attitude. Wants responsible position progressive company, northeastern U. S. PW-9169, Engineering News-Record.

**Project Mgr.-Gen. Supt. 22 years experience** heavy construction, bridges, highways etc. Recently completed multi-million project in Central America. PW-9170, Engineering News-Record.

**Office Manager-Accountant Main or Field** office domestic or foreign. Heavy Const. Taxes, payroll, costs, timekeeping, Purchasing, Insurance, Joint Venture, Personnel. PW-9178, Engineering News-Record.

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**Design, specifications, contract drawings, for** all types of simple, continuous, and long span bridges. Tight time schedules met. Professional Engineers. Bridgeway Associates, P. O. Box 1711 Church St. Sta., N.Y.C.

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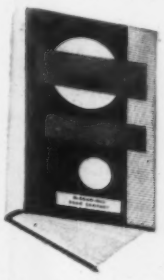

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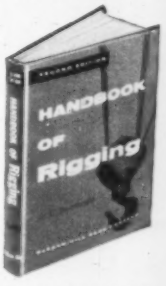


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## Professional Pride and Prestige Are at Stake

PLANS TO BUILD a new headquarters in New York City for the principal engineering societies of the United States are well advanced, with more than half of the necessary $10 million already available or pledged. But this is not as good as it sounds, for still teetering on the brink of uncertainty is the truly crucial part of the program. This is the Member Gifts Campaign, just now getting under way, in which engineers are asked to dig down in their own pockets and support this significant undertaking.

Although the results so far are encouraging, there remains a haunting doubt that engineers have yet sensed the importance of the outcome to themselves personally. For how well and how universally they support this United Engineering Center financing will be used by the world at large to measure how much pride U. S. engineers have in their profession. The prestige of engineering will go up or down according to the results, which cannot fail to affect the economic status and community standing of every engineer. The campaign for a new headquarters of engineering is thus not just another fund-raising drive, but a challenge to engineers to stand up and be counted.

As the campaign now stands there is another facet to the challenge that engineers cannot afford to overlook. Having asked and obtained the cooperation of industrial leaders to raise $5 million of the total, engineers are in the position of seeing 70% of this total subscribed, while less than 15% of their commitment has been pledged. Moreover, this commitment is only $3 million compared to industry's $5 million, since $2 million will be available from the sale of the present headquarters, which was a gift 50 years ago from Andrew Carnegie.

EVERY ENGINEER should take a keen interest in the success of the UEC campaign, but it is of course the 180,000 members of the five major societies—Civils, Miners, Mechanicals, Electricals and Chemicals—who must bear the main responsibility since it is they who will own the new building and profit most directly from it. Actually each individual subscription would be extremely modest if every member could be counted on to do his share—less than $20 per head, and with payment spread over three years if desired. But since universal support is never possible, engineers must be counted on to give according to their abilities, which vary according to the rewards that engineering has afforded them. Instead of $20 some should give $2,500, and others should give various amounts up and down the scale. The principal requirement is for every engineer to recognize his responsibility and act upon it.

The pride and prestige that immediate financial support will insure will be enhanced for many years to come by the building itself. It will occupy a block-long site facing New York's United Nations Plaza—a world center attracting thousands of visitors every day. To them, the building's 20-story tower will symbolize engineering's importance. And inasmuch as the building will house not only the five societies that own it, but sixteen other engineering societies and organizations, it will also symbolize and promote the cause of unity in the profession, another prestige raiser.

THESE PRIDE AND PRESTIGE FACTORS are in addition to the very tangible contribution that the building will make in improving operating efficiency of the headquarters staffs of the engineering societies. When the present building was built, they handled the affairs of 16,000 members. Now there are more than ten times that number. Moreover, when the present building was built, engineering served an economy measured by a gross national product of about $35 billion; this year's figure will be $435 billion. A headquarters building commensurate with this growth is obviously necessary for the service that engineering is expected to render.

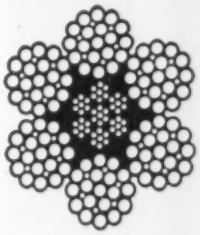
If engineering is more than a casual occupation—and statements to the contrary are seldom voiced—the new United Engineering Center, financed in substantial part by engineers themselves, will lend these claims real substance. Conversely, failure to support it can readily be taken by the world at large as an indication that engineers do not place as much stock in themselves and their profession as their frequent assertions would seem to imply.

That such an opinion, were it to become common, would be damaging to the rising prestige of engineering can hardly be questioned. It is equally certain that such damaged prestige would inevitably have a bad effect on the economic status and community standing of engineers. It is up to the engineers of the country, each acting individually, to see that this does not happen.

## Putting Sunshine to Work

SIGNIFICANT RESEARCH is being done in the field of solar heating—and cooling—as the article last week made plain (ENR Oct. 23, p. 30). Already proved practicable for regions where the sun is strong, solar heating may yet be made practical if this research can effect reductions in the capital costs of the installations.

Operating costs of existing solar heating systems are claimed to provide a substantial economy over conventional fuel systems, and in safety and cleanliness solar heating can hardly be improved upon. All this adds to the incentive for the research to continue, and for success to be attained.



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